• W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

JULY, 1956

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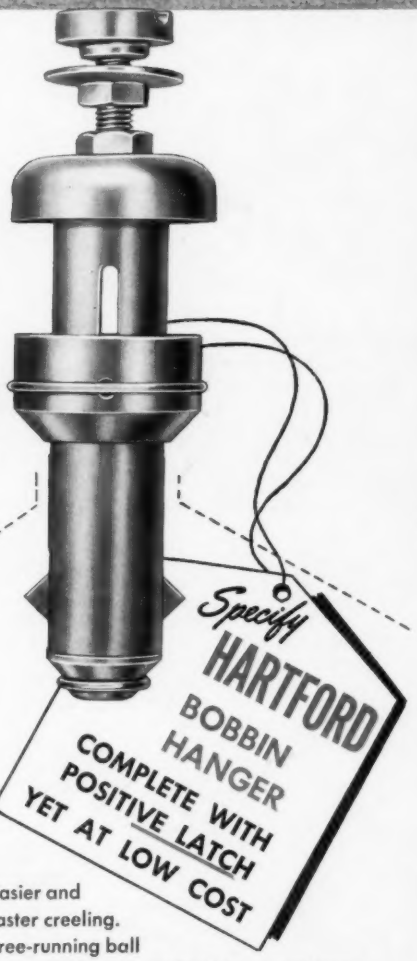
HMS

LOW COST OPPORTUNITY



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American
Engineered
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Easier and faster creeling. Free-running ball construction. Practically no upkeep. Improves spinning. Reduces cleaning problems. Once you examine it you will always specify the Hartford Bobbin Hanger for your creels. Write today.

HARTFORD MACHINE SCREW COMPANY
DIVISION OF STANDARD SCREW CO.
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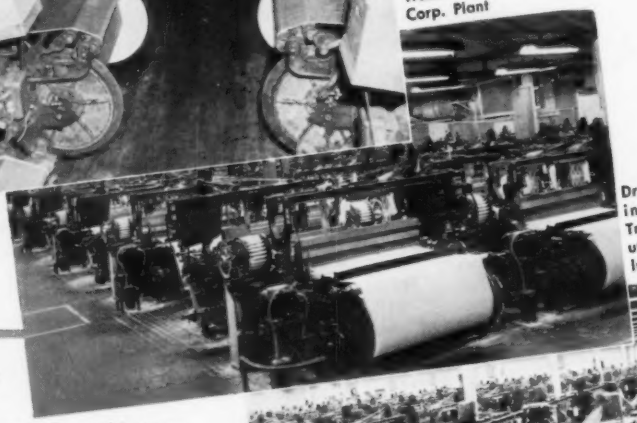
SOUTHERN DIVISION, ROUTE 3, BOX 314, GREENVILLE, S.C.

Diehl POWER TRANSMITTER

is assuring maximum weaving efficiency in leading mills

Thousands of Diehl Power Transmitters are operating DRAPER LOOMS in leading textile mills. Many have been in continuous operation for five years.

Draper X2 looms operating with Diehl Power Transmitters in Cone Mills Corp. Plant



Draper XD looms operating with Diehl Power Transmitters at Bibb Manufacturing Company, Columbus, Georgia.

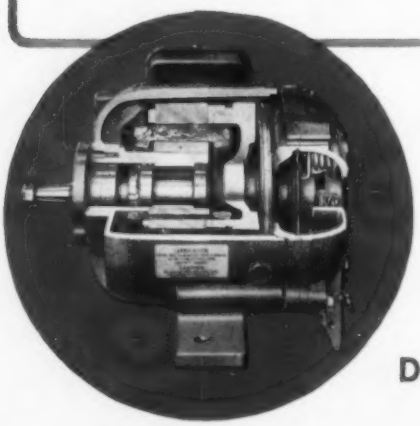
MILL MEN ARE ENTHUSIASTIC ABOUT THESE FEATURES

- "Stored energy" for smooth, rapid starts and positive picking.
- Precision braking.
- Minimum fluctuations of speed and motor current.
- Lower power consumption.
- Lower motor heat losses.
- Eliminates current regeneration.
- Simplicity and ease of maintenance.

. . . all of which adds up to increased mill production, improved quality of cloth, lowered operating costs and long, trouble-free service.

We will welcome an opportunity to tell you—without obligation—how the Diehl Power Transmitter can bring these benefits to you.

Draper XD looms operating with Diehl Power Transmitters at the Lyons Plant, Synthetic Division, M. Lowenstein and Sons.



This cutaway view illustrates the new Model "BA" Power Transmitter . . . an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. The exclusive new design features include—frictionless and self-aligning clutch-actuating bearing . . . kinetic braking action . . . unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns.

Diehl

DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

Finderne Plant, SOMERVILLE, NEW JERSEY

ATLANTA · BALTIMORE · CHARLOTTE, N. C. · CHICAGO · CINCINNATI · DETROIT · MILWAUKEE · NEEDHAM, MASS. · NEW YORK · PHILADELPHIA · PITTSBURGH

GREATER MOISTURE RESISTANCE . . . INSIDE AND OUT WITH NEW #400 FINISH FOR DRAPER BOBBINS

The Draper #400 Finish provides the extra moisture protection needed in the conditioning and weaving of certain type yarns.

New manufacturing techniques permit uniform application of a heavy protective coating to both *inside* and *outside* surfaces of each bobbin. This is just one example of how Draper bobbins answer specific mill problems.

Unsurpassed for quality and uniformity, Draper bobbins will meet your requirements.

For greater profits, increased production and efficiency, order Draper bobbins today.

DRAPER CORPORATION

HOPEDALE, MASS.

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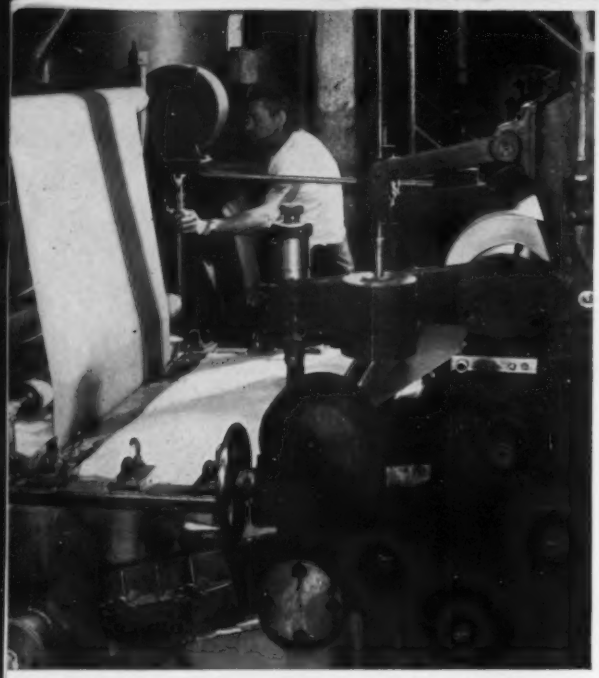

Dye Oxidation on Continuous Range. At Exeter Manufacturing Co., Exeter, New Hampshire, Becco Sodium Perborate oxidizes vat dyes to bright, clean, fast colors. Goods are left in fine condition for finishing operations.

Dye Oxidation in Package Machine. At American Thread Company a bath containing Becco Hydrogen Peroxide is forced into the packages, then reverse cycled for uniform oxidation of vat dyes.

DYE OXIDATION with BECCO®

PEROXYGEN CHEMICALS

The outstanding advantages of vat and sulfur dye development with peroxygen chemicals have led to wide use of this method by the textile industry's leading dye houses.

Becco Hydrogen Peroxide and Sodium Perborate are mainly used for the oxidation of vat dyes. They produce bright, clear shades and leave the goods in excellent condition for all finishing operations. There is no problem in keeping the dyeing equipment clean. Residual chemicals are quickly removed from the goods, due to the high solubility of these percompounds.

The advantages cited above also apply to Becco Ammonium Persulfate, used for the oxidation of sulfur dyes. Yarns so dyed have better hand, improved knitting characteristics and excellent dye fastness. This dry percompound is easily stored in its shipping container.

Becco's history of service to the textile industry is a long and proud one. Patents held by Becco on its processes, including the recently developed silicate-free formulas for continuous peroxide bleaching of cottons, are freely licensed to all manufacturers.

Write for Bulletin No. 75 on oxidation of dyes on cottons and synthetics with peroxygen chemicals, or call your nearby Becco representative for technological assistance on specific problems in the numerous aspects of cotton, wool and synthetic fiber bleaching in which Becco peroxygen chemicals are used.

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Food Machinery and Chemical Corporation
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Becco Peroxygen Chemicals: Hydrogen Peroxide • Peracetic Acid • Sodium Perborate • Persulfates and others.

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NBP BPA

Textile Industries

Formerly "COTTON"

Vol. 120, No. 7
July, 1956

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You don't need a warehouse for overstocks. Our own dependable carriers assure you tube delivery that fits right in with your production schedule. You'll like the *service*, you'll like the *economy* of doing business with—

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Prompt delivery by our own fleet throughout the South and Southwest.

Shorts and Remnants

By J. C. C.

We therefore, the Representatives of the United States of America, in General Congress, Assembled, appealing to the Supreme Judge of the world for the rectitude of our intentions do, in the Name, and the authority of the good People of these Colonies, solemnly publish and declare That these United Colonies are, and of Right ought to be, Free and Independent States: that they are Absolved from all Allegiance to the British Crown, and that all political connection between them and the State of Great Britain is and ought to be totally dissolved; and that as free and Independent States, they have full Power to levy War, conclude Peace, contract Alliances, establish Commerce, and to do all other Acts and Things which Independent States may of right do. And for the support of this Declaration, with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes, and our sacred Honor.

► Stout words and not bad reading. Some day when you figure you want to catch up on a little history, read it all the way through and then try Patrick Henry's "Give Me Liberty or Give Me Death" speech, and "By the Rude Bridge that Arched the Flood." (Concord Hymn — Ralph Waldo Emerson).

► You can get all these—"The Declaration of Independence"—"The War Inevitable, March, 1775" by Patrick Henry, and a lot more, too in "One Hundred and One Famous Poems" ($1) published by the Cable Co., Chicago. If you can't find it, write and let us know. We will pass your inquiry on to the publishers.

► Now, since we are on the subject, let's see what we know about the Declaration of Independence. Below are a few questions, and the answers numbered as per question are buried in the rest of S&R. Happy hunting.

Question 1—*Where was the Declaration signed?*

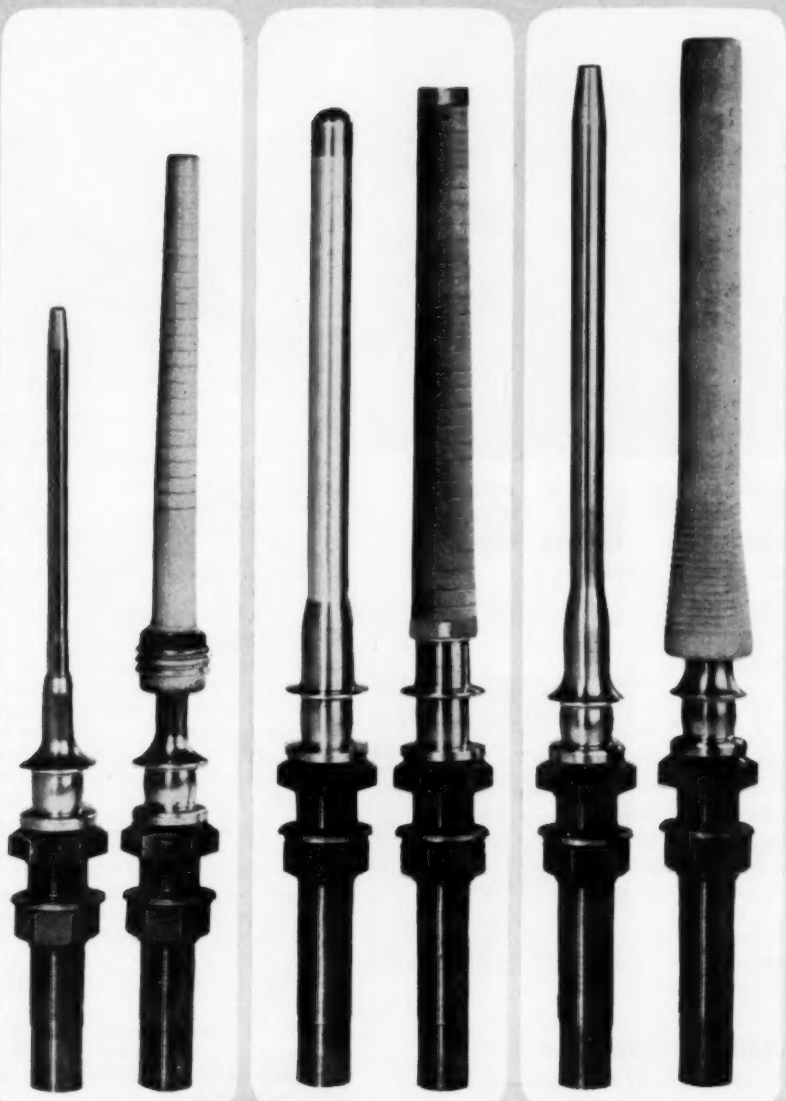
Question 2—*Who was John Hancock?*

Question 3—*How many of the* 13 *original states signing the Declaration can you name?*

Write them down before you check

ROBERTS *ball bearing* SPINDLES

FOR SPINNING AND TWISTING



Available in three Top Drive types: for filling quills, paper tubes, and wood warp bobbins.

Based on many years of experience with anti-friction spindles, the best ideas of skilled people in the Mills were embodied into Roberts Ball Bearing Spindles to provide the most wanted features.

First was the elimination of oiling. Roberts Spindles need no attention except for two drops of oil every 3 to 5 years.

The capacity for high spindle speeds is most important — not only for today but for the ever increasing speed demands in the future. The use of precision ball bearings provides this reserve speed capacity.

More dependability, better accessibility and much easier plumbing is obtained by means of the all-steel base design, exclusive with Roberts.

Small whorl diameters mean reduced cylinder speeds and lower horsepower consumption, increased life of cylinders, bearings, tape tension pulleys and tape.

Using Roberts Spindles for current bobbin lengths and ring sizes still allows in most cases for the future increase of package sizes without changing spindles, at no extra cost.

Time is saved in installation by the hex base, the cupped base seat and washer, the extra fine tightening threads. Steel base and whorl prevent damage from tapping during plumbing.

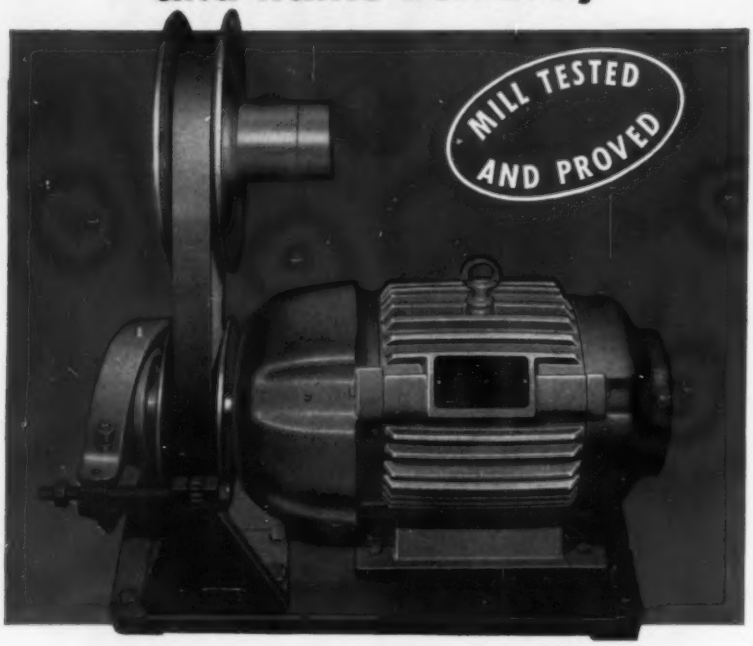
The high smooth finish on all parts and elimination of the external doffer guard prevent lint catching.

All these outstanding features—plus many more—offer the greatest flexibility of use, the highest precision for long life, the assurance that Roberts Ball Bearing Spindles will serve the Mills' needs well into the future—and, at low initial cost.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

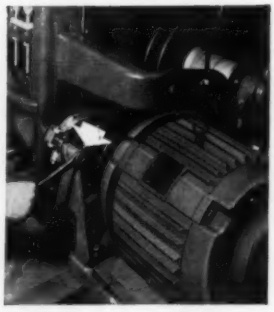
Increase spinning efficiency and frame flexibility



REEVES Vari-Spin Drive

Fast, easy adjustment!

For *exact* cylinder speed regulation—from 500 to 1450 rpm—simply turn shifting screw with wrench . . . *with frame in operation!* Get the required speed—in seconds!



Top production

Optimum spinning efficiency demands the highest front roll rpm that will maintain acceptable yarn quality (ends down) and constant work loads (sides per spinner.) REEVES Vari-Spin permits speed adjustments —while the frame is running—to compensate for variations in humidity and roving quality.

Durable, flexible performance

Maximum frame utility requires drive flexibility for today's yarn count and fiber blend changes, as well as future traveler and ring improvements. With almost 3 to 1 speed range, the rugged and reliable REEVES Vari-Spin permanently reduces wasted fixer hours and frame down time.

Get the story on "Mill Proved" Vari-Spin from your REEVES representative, or write for folder 122a-5561

REEVES DIVISION • COLUMBUS, INDIANA

RELIANCE ELECTRIC AND ENGINEERING CO.

Shorts and Remnants

the answer for the full list.

► Getting back to good old 1956, this here U.S.A. is engaged in the good old democratic idea of choosing a president. Comes every four years, remember, but this is the first time for Demo-Donk Corp., Culver City, Cal., or if not, it's the first time they figured out TI would like to buy a kicking donkey for the rear bumper

of our car. The car vibrates—the donkey kicks up. Now, if all our good Democrat friends will rally round and rig up their rear bumper we'll all one-two-three-kick together. Maybe the Republicans will come up with an answer, but who ever heard of an elephant kicking up his heels? Write Culver City for this gadget.

Perkin Centennial

Getting back to textiles and 100 years ago, a learned English chemist, Sir William Henry Perkin, started something with his development of a man-made dyestuff, starting off the development of modern dyeing and finishing. You get the best of it in all wet processing in TI, so look for a big September Perkin Centennial Issue devoted not only to dyestuffs but to all finishing. The first dye was a sort of mauve color, and we are looking for a mauve necktie to wear to the AATCC Perkin Centennial Convention in New York, Sept. 10-15.

P. J. Wood, Tech. Dir., Royce Chemical Co., Carlton Hill, N. J., sends us a translation on "One Hundred Years of the Coal-Tar Dyestuff Industry . . . " from the New York *Staats-Zeitung Und Herold* of Apr. 15, 1956. Seems that England neglected to train its youth to follow the illustrious path of Sir William, and two good German chemists, Justus von Liebig and Friedrich Wohler, pioneered coal-tar dye research and the development of almost a world monopoly by Germany on

But, Mr. Woolen Manufacturer,

You don't have to "live with" STATIC

NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.

Many companies often make extravagant claims for their wool oils. Nopco doesn't believe in extravagant claims. But if you are one of the many woolen manufacturers who have been assuming that static is something you just have to live with—since you can't eliminate it economically—we're sure you have everything to gain by trying our new wool oil, Nopcostat 56-C.

Nopcostat 56-C is a wool oil about which we are, truthfully, extremely optimistic. The combination of built-in anti-static qualities for trouble free running *PLUS* supplemental detergent action for optimum finishing and fine, clean fabrics put Nopcostat 56-C in a class by itself.

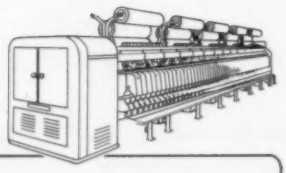
But what we *say* about Nopcostat 56-C won't really convince you. One trial in your mill will, we are sure, prove to you that our great enthusiasm for this new wool oil is well deserved. Make us prove it!

Nopco Chemical Co.,
410 Fuller St., Harrison, N. J.

NEW INSTALLATION OF D&F SPINNING FRAMES AT BAY PATH TEXTILES, INC., WARE, MASS.

Compare your wool spinning records with these

"coordinated production" figures



ON DAVIS & FURBER SPINNING FRAMES LIKE THESE YOU CAN ACHIEVE:

	Carpet, Felts & Blankets	Apparel & Men's Wear
Front Roll Speeds RPM	150 to 200	75 to 150
Spindle Speeds RPM	2400 to 4000	4000 to 6200

Speed variations according to stock specifications

Profitable mill operation requires thorough, expert planning of both the necessary equipment and the method of operation. Here are positive ways Davis & Furber can help you obtain *such* "Coordinated Production" efficiency — vital in today's competitive market.

A Davis & Furber Technical Survey will include:

Recommendations for —

★ *An over-all production improvement plan.*

★ *Equipment additions or changes to match your stock and yarn specifications, together with the investment required.*

★ *Establishment of a preventive maintenance and operating program, to increase efficiency.*

Plus actual:

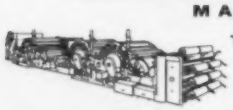
★ *Set up of equipment "in-the-mill."*

★ *Follow-up to assure peak performance and production.*

The benefits of Davis & Furber experience are yours for the asking. Contact us now at North Andover, Mass. or Charlotte, N. C. Ask for the D&F News to help with your planning.

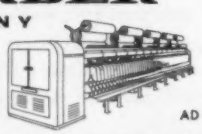
DAVIS & FURBER

MACHINE COMPANY



TEXTILE MACHINERY DESIGNERS AND MANUFACTURERS

North Andover, Mass.
Charlotte, North Carolina



AD 11-3

CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • WARP DRESSING MACHINERY • FINISHING MACHINERY
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

Shorts and Remnants

dyestuffs ending with World War I. "What the Englishman Perkin has sown, has come to full bloom through German research." Thanks to **Herman Nelson** of Royce for the translation.

► We always suspect anything labeled "Public Relations" but it looks as if **John T. Cunningham** of Anderson and Cairns, Inc., NY ad agency, is really "buttering up" to the boss man when he sends us the picture below of Mr. and Mrs. John A. Cairns, sailing on the good Queen

Mary to visit European clients. However, we want to help out and anyway it says clients include Dobeckmun, Britain Ltd., and Sandoz Chem. Wks., Inc., of Switzerland, and these folks are good U.S.A. advertisers in TI.

► Folks know we have several Editors, but a letter from Abbeon Supply Co., Jamaica, N. Y., takes the prize with its address of "Not the Heat Editor, But the Humidity Editor." Well, we always say it's not the heat, it's the humidity that gets you.

► Friend **Harry Riemer** of *Daily News Record* sends a printed "friendly and personal greeting" on the ACMI convention, starting:

The Industry's voice spoke loud and clear
So that Washington could surely hear:—
"Protect the jobs, in all our mills,
Take action before the Import kills."

Two more verses were worse, so Harry had better stick to editing. Come to think of it—that's still better poetry than S&R usually has.

(Continued on page 10)

For **smoother** knitting and **fewer** seconds use GULFTEX, the non-staining needle oil

Gulftex oil keeps needles clean and smooth, resists gumming and minimizes the build-up of deposits on needles. Result: Smoothest knitting and fewer seconds!

Gulftex also has superior non-staining characteristics that make it a valuable lubricant for any application where the staining of fabrics is a problem. It is easily applied with spray, brush or plastic squeeze bottle.

Scores of hosiery mills report excellent results with this outstanding needle oil. Let us prove that it can do a better job in your mill!

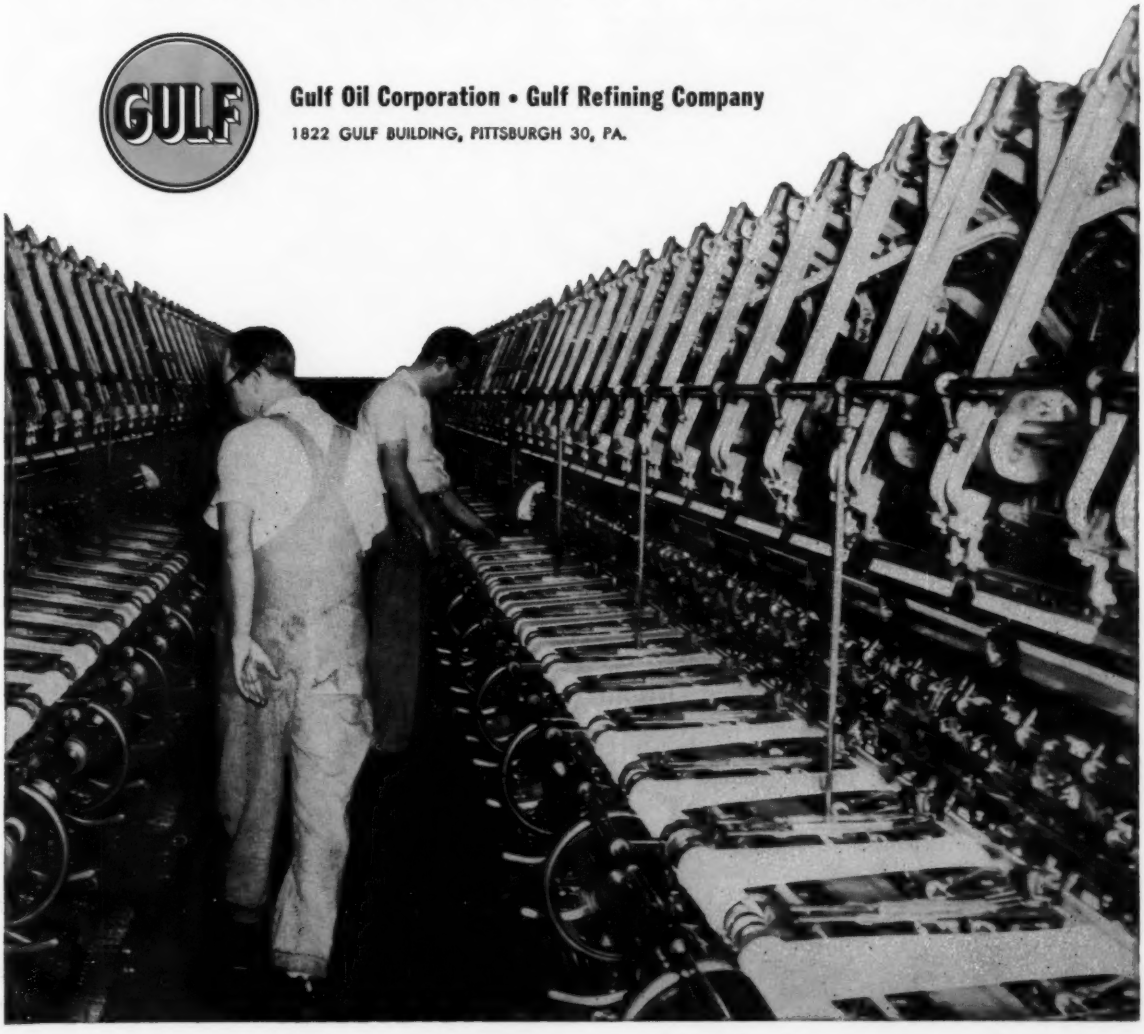
Consult the yellow pages of your telephone directory to contact your nearest Gulf office, and have a Gulf Sales Engineer call.

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

GULF

Gulf Oil Corporation • Gulf Refining Company

1822 GULF BUILDING, PITTSBURGH 30, PA.



FIND OUT HOW...

TRUSCON LABORATORIES
1700 Caniff, Dept. T-8 Detroit 11, Michigan

How can we stop corrosion?

Name_____
Firm_____
Address_____
City_____ Zone____ State____

"We Stopped Corrosion at our Plant!"

"Corrosion was *rampant* inside and out before Truscon diagnosed our troubles and prescribed TRUSCON CHEMFAST, corrosion and chemical resistant coating with Devran (epoxy resin)."

● If you have *any* corrosion at your plant, stop it *now* before replacement costs eat gaping holes in your profits! Send coupon above—take advantage of Truscon experience and know-how.

Chemfast is a heavy-duty coating for protecting indoor and outdoor surfaces of wood, metal and masonry against moisture, acids and alkalis. It owes its toughness to Devran (epoxy resin).

IT'S ALIVE—IT'S DEVRAN!

TRUSCON *Laboratories*
Division of Devoe & Raynolds Co., Inc.,

Shorts and Remnants

(Continued from page 8)

► To the questioner on that item on the Cotton Shop, N. Y., featuring pure silk dresses, it was in the Apr. 14 issue of the *New Yorker*. Look it up.

► Also, Mr. Chemstrand, we didn't mean it in our comments on the "Nylon or Nothing" ads. You didn't have to show us, and hot weather is here so we might just take you up on that choice.

► But then there's something about a bathing suit, whether at the old swimming hole or blowing a flute for Eutetic Welding Alloys Corp. in the nature of the following from said company on Miss Weldor of 1956 (Jayne Mansfield).

Weld, weld, weld!

► In April S&R we excerpted a letter from Tong Yuk Shu, who wants to come to the U.S.A. **Dr. Leland S. Liang**, Werner Textile Consultants, N. Y., writes:

> . . . I hope that Mr. Tong and his family can be suitably located in this country, as he so earnestly desires, although I have no illusions whatsoever of the many difficulties that he will have to encounter. Will you be kind enough to send me Mr. Tong's references and credentials. . .

We Tend to Our Knitting

April, 1957, is just around the corner. We have announcement already on the Knitting Arts Exhibition for Atlantic City Apr. 29 - May 3 next year and it's an interesting one. The Knitting Industry spent $1,100,000,000 for yarns, threads, textiles; $250,000,000 for machinery,

Get this New "Perspective on Profits"

COMPETITION BEGINS . . . and often ends . . . in the weaveroom. But a modern C&K Weaveroom like this one . . . protected with W3 or W3A SELECT-A-PIC LOOMS . . . remains successfully competitive under the most rapidly shifting market conditions and the passing fancies of the buying public. For this exclusive C&K feature permits full automatic weaving on many fabrics that otherwise *cannot* be woven automatically. Every day, hundreds of SELECT-A-PIC LOOMS are weaving a profit margin that will give *you* a new perspective. Want the whole story? Just write:

CROMPTON & KNOWLES *Corporation*

WORCESTER 1, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
Crompton & Knowles of Canada Ltd., Montreal, Quebec

CROMPTON & KNOWLES CORPORATION C&K WORCESTER, MASS. U.S.A.

NOW...*Electronic wings for your weights!*

...bringing you TOLEDO accuracy wherever you want it in the form you want it!

REMOTE DIGITAL INDICATION

REMOTE TAPE PUNCHED

REMOTE TABULATION

REMOTE LISTING and ADDING

REMOTE TYPEWRITING

Weight data can now go anywhere . . . in the form most useful to you . . . through Toledo's remarkable new electronic system of remote data handling. Even though the weights originate in production, inspection, testing, shipping or receiving, the weight data travels instantly for remote digital recording in the form and location that best suits your needs. This greatly extends the capabilities of TOLEDOmation and assures for you maximum weight cost control and usability of weight data.

NEW AUTOMATIC BATCH CONTROL SYSTEM ... with Remote Digital Weight Recording

This Toledo cabinet interlocks 22 scales in an automatic batching system.

Through TOLEDOmation all ingredients are fed into successive batches in proper sequence, including operation of gates and feeders. In addition, all dials are automatically scanned and the digital weight data is recorded on an electric typewriter for each batch.

SEND FOR BOOKLET ON NEW TOLEDO REMOTE DIGITAL WEIGHTS . . . Toledo Scale Company, Toledo 1, Ohio

TOLEDO® HEADQUARTERS FOR **SCALES**

Shorts and Remnants

equipment, and services; comprises 3379 companies—1798 of them in Middle Atlantic area and 834 in the South. It's an interesting announcement. If you want a copy write us or write Al Rau, Park Square Bldg., Boston, Mass.

TI is proud of its Knitting Section each month and of the cooperation of knitting mills in furthering knitting by exchanging ideas in this section. We like such comments as:

"I find many helpful ideas and information about new machinery, etc., in each issue of TEXTILE INDUSTRIES. It has been worthwhile for me to save each issue for future reference. . . . "

ROBERT L. LILES, JR.
Russell Hosiery Mills, Inc.
Star, N. C.

" . . . . We appreciate this very much and appreciate the honor of having this in your magazine ['Triangle Packages Socks for Consumer Appeal.'] . . . "

R. O. HAAS
Vice-President
Triangle Hosiery Co., Inc.
High Point, N. C.

"We have received your issue of May, 1956, and must compliment you on the fine article on our knitting mill ['ABC's of Knitted Fabrics'] . . . . "

DAVID I. BROOK
Empire State Mills, Inc.
New York, N. Y.

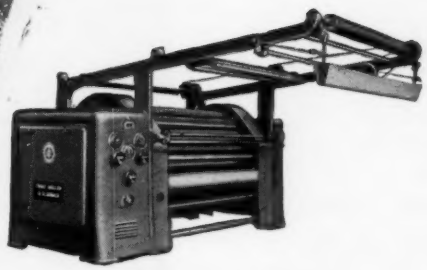
" 'Some Quality Control Methods Used in a Modern Outerwear Fabrics Plant' (Apr. '56) was read with interest. Is it possible to obtain, first of all, several names of manufacturers or companies manufacturing the stainless kind of oil referred to in this article. Also manufacturers of the vacuum cleaning equipment which is pictured in this article. . . . "

JOHN F. WOODWORTH
The Winona Knitting Mills, Inc.
Winona, Minnesota

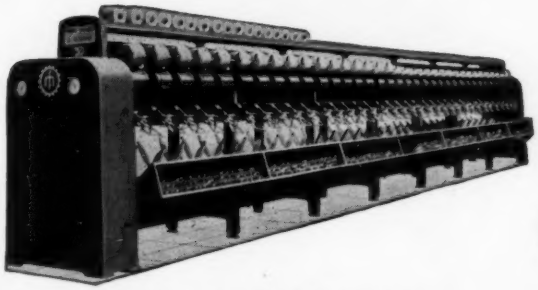
"King Cotton Wins"—Newspaper Headline

Believe it or not, it wasn't a release by the National Cotton Council, but on the sport pages; and King Cotton, middleweight, whipped Joey Giardello.

(Continued on page 18)



TRI-NAPPING MACHINE
for highest qualities—and performance—excellent for napping all materials



HIGH-SPEED CONE WINDER
Model NK 3a (5"), NK 6 (6") most modern construction Super-Coner and Double-Winder

100th Anniversary

Manufacturing Program:

DEPT. 1

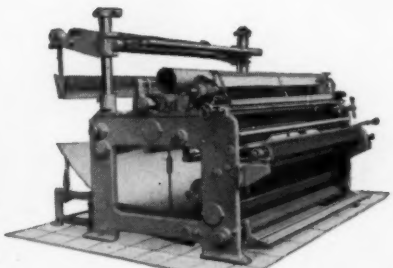
Finishing Machines for Woolens, Cotton, Cellular Wool, etc.

DEPT. 2

Cutting & Finishing Machines for Corduroy, Velveteen, Suedes.

DEPT. 3

Weaving Preparatory Machines, High-Speed Cone Winder, Yarn Singeing Machines, High-Speed Warping Machines



High Performance Shearing Machines (Model CA3) for special finishing of Wool, Terry Cloth and Corduroy, Silk, Velvet, Drapery Fabrics and Plush.

FRANZ MUELLER • MASCHINENFABRIK • M. GLADBACH (Rheinl.)

North America:
Textile Machinery Import Corp., Inc.
271 North Avenue
New Rochelle, N. Y.

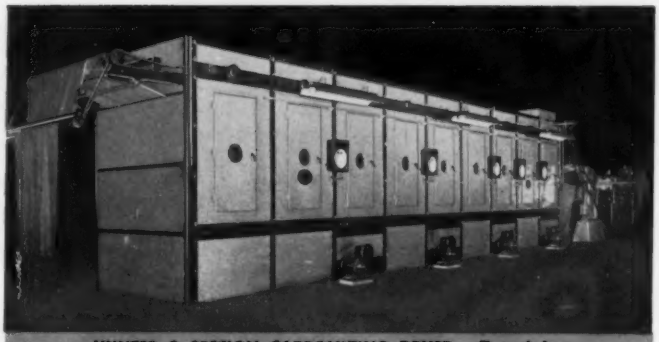
Southern States:
Parrot & Ballentine,
510 South Carolina
National Bank Building,
Greenville, S. C.

HUNTER Drying Equipment Builds Profits at STRONG-HEWAT

At Strong-Hewat and many other top-ranking mills, an increasing number of Hunter Dryers are playing a key part in building profits. The reason: Hunter Dryers process fabrics faster, safer, at lower steam, power and labor costs, with results unsurpassed for quality.

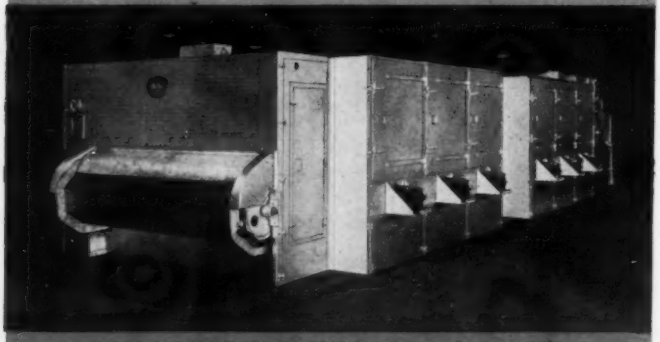
HUNTER BUILDS PROFITS FOR YOU WITH A COMPLETE LINE OF DYEING AND FINISHING EQUIPMENT FOR *EVERY* FABRIC REQUIREMENT:

Wool
Cotton
Blends
and ALL
Synthetics



HUNTER 9 SECTION CARBONIZING DRYER. Zoned for controlled carbonizing of woolens and worsteds. Eliminates streakiness, tendering, below standard tensile strength. Bulletin CC.

HUNTER UNIFLOW TENTER DRYER. For woolens, worsteds, blends, plushes, felts and synthetics. Dries up to 60 yards per minute. Bulletin UTD-2.



HUNTER DUPLEX STOCK DRYER. For wool, cotton, silk, rayon staple, rags, linters. Exclusive method permits stock to be turned over during drying cycle by controlled air streams. Bulletin DSD.

JAMES HUNTER MACHINE COMPANY

BUILT BY HUNTER ...IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

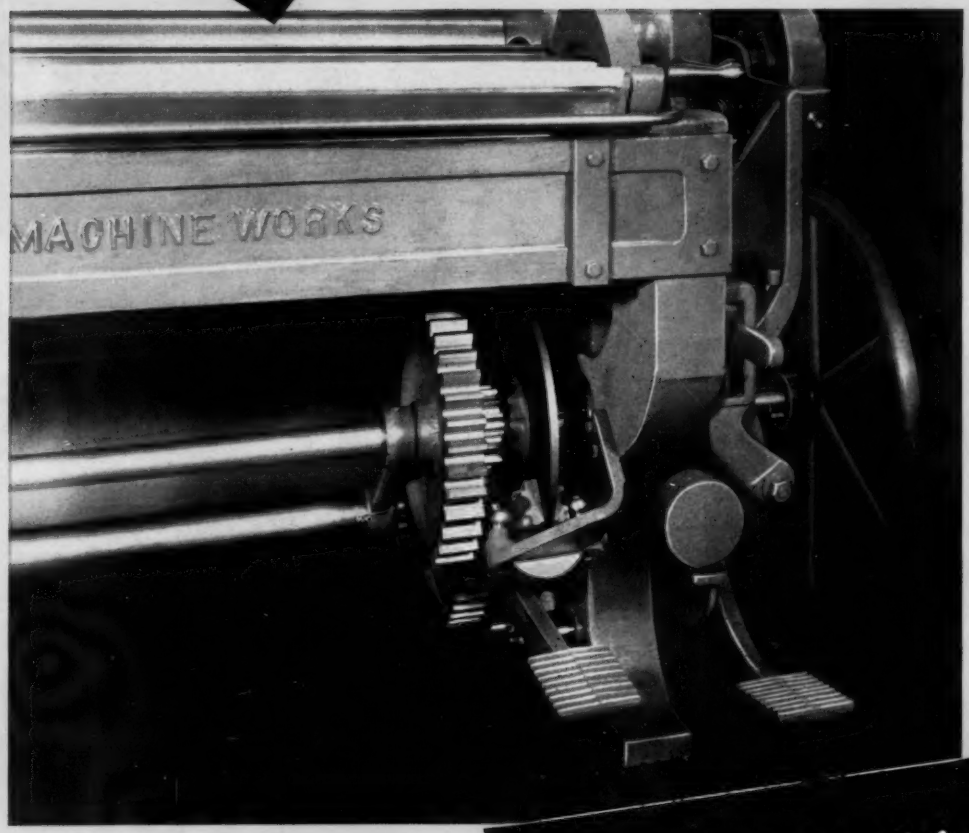
plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair ... rapid parts delivery

Need NEW Pickers?

THE DEAD-WEIGHT, CONSTANT-PRESSURE CALENDER RACK RELEASE

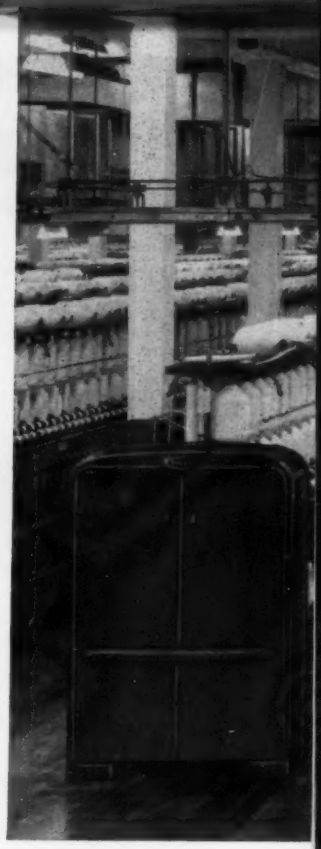
This replaces the old friction let-off, and applies dead weight to the calender racks in the same manner as if a weight were hung on a drum-pulley on the calender rack cross-shaft. The disc, which replaces the old friction drum, is firmly gripped by clutch-pads on each side of the disc. The slightest movement of these clutch pads automatically opens them to let the let-off disc move. The disc is therefore constantly holding a dead weight in suspension, and the pressure on the lap is quite uniform.



This makes firmer, heavier laps without calender rack breakage.

Aldrich Machine Works
Greenwood, South Carolina

Statistics make headlines... *but* Performance makes Profits!



Statistics for machine production often make news, but actual machine performance plays the decisive part in creating mill profits. The performance of Whitin Superflex Spinning frames and the profits. they are producing now in many leading mills are the best test of their true worth. That's why Whitin Superflex Spinning frames are the continuing and growing choice of mills demanding maximum yarn quality and minimum spinning costs — the essential ingredients of profits.

..so look at the profit-producing performance

Photographs show recent installations of Whitin Superflex Spinning Frames

# of Whitin SUPERFLEX* SPINNING

As a specific example of the advanced economies and practical benefits that can be secured with Whitin Superflex Spinning frames, the following mill data is presented, based on actual operating conditions in the production of high quality print cloth, 80 x 80, 39", 4.00 yds./lb., 31's warp and 41's filling.

	Warp	Filling
Yarn No.	31's	41's
Gauge	3½"	3"
Ring	2"	1⅞"
Traverse	11"	7"
Wt./Yn./Bobbin	.345 lbs.	.119 lbs.
Spindle R.P.M.	10,300	11,000
Traveler Speed, F.P.M.	5376	4140
Twist Multiplier	4.25	3.90
T.P.I.	23.7	25.0

	Warp	Filling
Front Roll Speed	138	140
% Efficiency	95	95
Lbs./Spdle./Hr.	.0265	.0203
Lbs./Spdle./120 Hrs.	3.180	2.436
Spdles./Operator	3900	3864

Labor cost per lb. including all direct and indirect help in Spinning Room . . . . . $.03322

For complete information ask your Whitin representative or write direct to us.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

STOP DREAMING ABOUT BIG PACKAGES...

CALL MEADOWS

For 24 years we've been s-t-r-e-t-c-h-i-n-g spinning and twister frames, making them do things their designers never dreamed possible.

WE CAN REBUILD YOUR FRAMES FROM FLOOR TO CREEL

Our new Phone No. PLaza 5-1663

MEADOWS MANUFACTURING COMPANY
ATLANTA, GEORGIA

REPRESENTATIVES:

G. P. (Jack) STANLEY, P. O. Station A — Box 3223, Greenville, South Carolina
SAM R. HOGG, P. O. Station A, Atlanta, Georgia
MATTHEWS EQUIPMENT CO., 93-A Broadway, Providence 3, Rhode Island
WALTER S. COLEMAN, P. O. Box 782, Salisbury, North Carolina

Shorts and Remnants

(Continued from page 12)

► "TI Grows Like Magic—Protects from Evil Spirits," and that's what it says here. There should be a good ad idea here about sales growing like magic from TI ads and advertising in TI protects from evil spirit of lagging sales, but then we don't like to brag and here's the plant, 49¢ at your grocer:

Ultrasonics Again

Maurice C. Rosenblatt, of a N. Y. accoustical firm, says he is getting inquiries far and wide from "Ultrasonics in the Textile Industry — A Progress Report" (Mar. '56) and wants to know what it is all about. Some readers must have gone to the NY telephone directory, as the only firm mentioned in the article was Accoustica Associates, Long Island, N. Y.

Tufted Textiles

"Being a subscriber to your publication and having become interested in tufted textiles, would like to know if I could obtain several copies of Vol. 119, No. 6, dated June, 1955, which carried a 40-page report on Tufted Textiles. . . ."

WILLIAM E. JENNINGS
Mgr., Fiber Application Lab
National Aniline Division
Hopewell, Va.

► "Tufteds" June '55 was popular. Our supply is gone but we have reprints on "Tufteds" June '56.

Continuous Yarn Making

"We should appreciate receiving five reprints of the article 'Continuous Yarn Making—It May be Nearer

(Continued on page 24)

Cottons resist wear or wrinkles even more with RHONITE R-1 *and* RHOPLEX

Everybody knows that the best things come in pairs! So our wise little owls are now teaming up RHOPLEX acrylic resin with RHONITE R-1 for better-than-ever cottons or cotton blends. As the fabric requires, RHOPLEX acrylic resin can be added to produce

- ***better* wrinkle resistance with *equal* fiber strength**
- **or, *equal* wrinkle resistance with *superior* fiber strength.**

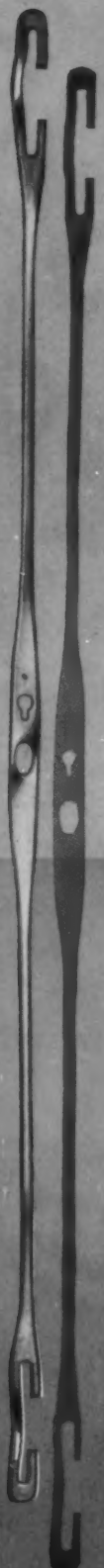
Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

RHONITE *and* RHOPLEX *are trade-marks, Reg. U.S. Pat. Off. and in principal foreign countries.*



100% PRODUCTION and NO SECONDS

...THE GOAL OF EVERY WEAVER

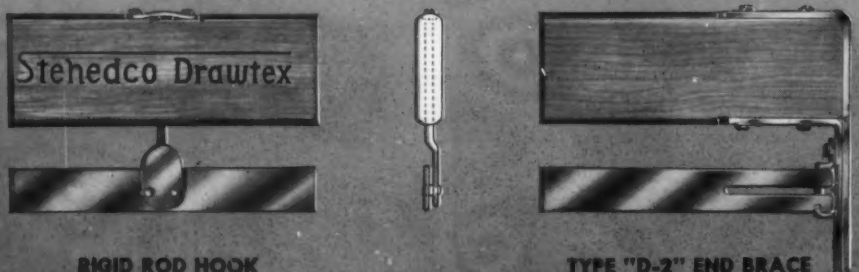
Take The Greatest Step Toward That Goal By Using Stehedco DRAWTEX HARNESS

- **Stehedco Drawtex Heddles and Frames are revolutionizing the textile industry with their efficient, trouble-free performance.**
- **They have proved themselves worthy of the Stehedco name by giving greatly increased production and higher quality goods.**
- **Many of the original Stehedco Drawtex Harnesses have been in constant use for over twenty years.**

The heddles are made of finest quality spring steel and highly polished to handle your most delicate yarns. Only Steel Heddle offers the patented rod slot hump, the shock absorber which is your insurance against heddle breakage. The exclusive spring effect guarantees quick and easy drawing-in by hand or machine. One heddle size can be used for a much wider range of yarn sizes and constructions, and every heddle is a repair heddle which can be added or removed at any position on the frame.

Frames are made of select fir lumber, straight and knot free. The new type D-2 end brace rigidly clamps the heddle rods so that there is no wear on either the brace or the rods, and yet the rods may easily be removed by slight pressure of a screwdriver to add or remove heddles.

The new rigid rod hook eliminates wear and need for replacement, and is easily adjusted with a screwdriver. It eliminates all warp streaks caused by the bunching of heddles at conventional type rod supports.



RIGID ROD HOOK

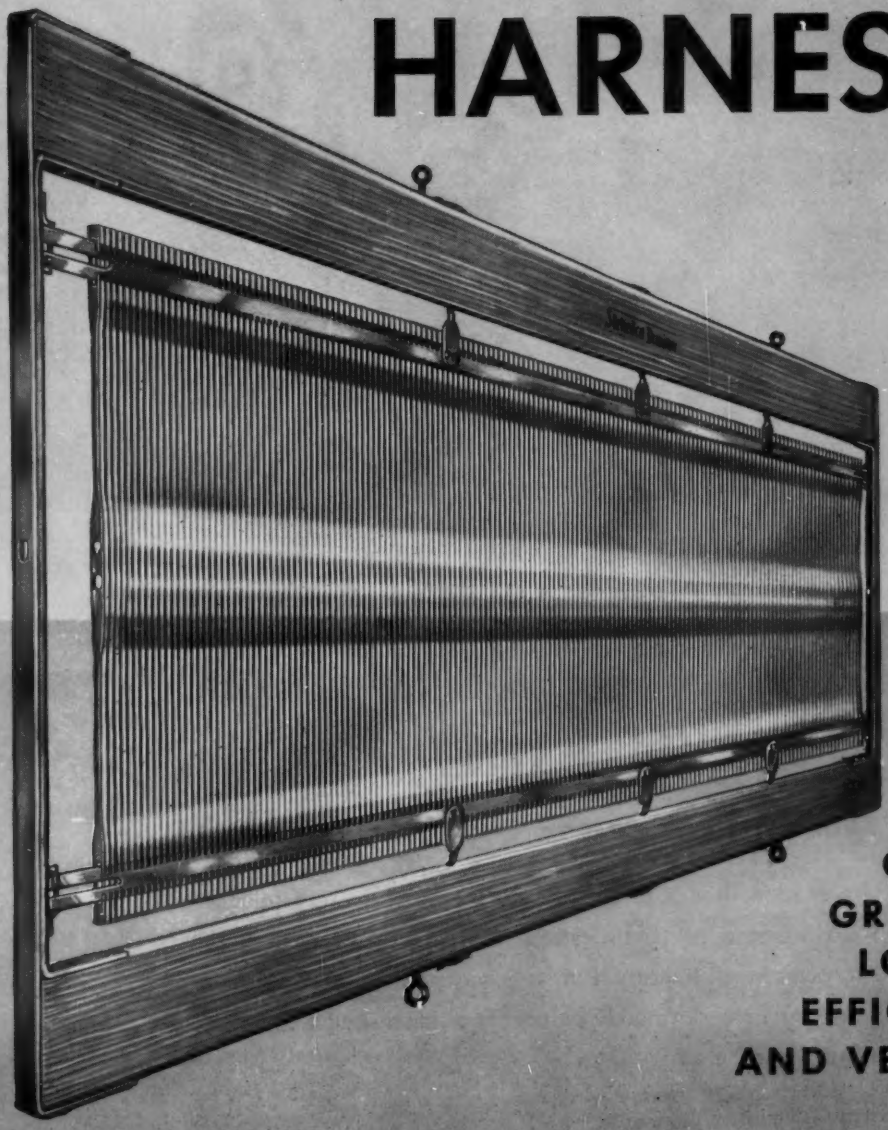
TYPE "D-2" END BRACE

YOU WILL PROFIT GREATLY BY INSTALLING STEHEDCO DRAWTEX HARNESS IN YOUR LOOMS

Ask our Field Engineers for Samples and additional Information about this Revolutionary Type of Harness.

Stehedco

DRAWTEX HARNESS



GET
GREATER
LOOM
EFFICIENCY
AND VERSATILITY

STEEL HEDDLE MFG. CO.

2100 WEST ALLEGHENY AVE. PHILADELPHIA 32, PENNSYLVANIA

ATLANTA, GA.—GREENSBORO, N.C.—GREENVILLE, S.C.—PROVIDENCE, R.I.—MONTREAL, CANADA

THEY STARTED THE AMERICAN ALKALI INDUSTRY

These men of Solvay . . . 75 years ago!

Marking our 75th Anniversary this year, we take pride in Solvay's pioneer role in the establishment and development of the American Alkali Industry. But, at Solvay we do not think of pioneering as a picture from the past but as a continuing job for today and the years ahead.

AMERICA'S FIRST PRODUCER OF ALKALIES
SOLVAY
75th YEAR
1881-1956

SOLVAY PROCESS DIVISION

Allied Chemical

ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

BRANCH SALES OFFICES:
Boston • Charlotte • Chicago • Cincinnati • Cleveland
Detroit • Houston • New Orleans • New York • Philadelphia
Pittsburgh • St. Louis • Syracuse

HYSTER MAKES THE *RIGHT* INDUSTRIAL TRUCK FOR YOUR JOB

Spacesaver 40 with rug pole is used to unroll carpeting prior to dyeing. Once started, the carpeting completes the unrolling without further assistance.

Pictured above is one of many typical examples of how Hyster® Industrial Trucks are helping to effect tremendous savings in the cost of handling materials in the Textile Industry.

Even if you are now using lift trucks or have never used industrial trucks of any kind, your Hyster dealer can show you how you can quickly realize more profit from your operation with these multi-purpose utility tools. Your Hyster dealer knows materials handling . . . he is an expert on the problems and their solution. He can help you with special techniques and cost reducing methods. Call him today...why not take advantage of his materials handling know-how? He is listed under "Trucks-Industrial" in your telephone directory.

HYSTER DEALERS GIVE YOU ALL 3!

1 **PLANNING**—your Hyster Dealer will plan your materials handling operation from scratch, or will analyze your present system to see if it can be improved.

2 **THE RIGHT TRUCK**—for *your* job from Hyster's complete line of industrial trucks (1,000-30,000 lbs.) and over 100 job-attachments for economical load handling.

3 **THE RIGHT SERVICE**—ample spare parts stock, shop facilities, factory-trained mechanics and an efficient field service that keep your Hyster lift trucks going on your job, wherever your job might be located. Hyster trucks are noted the world over for their low downtime.

Materials Handling Trucks from 1,000 to 30,000 pound capacities

2902-57 N. E. CLACKAMAS, PORTLAND 8, OREGON
1010-57 MYERS STREET.....DANVILLE, ILLINOIS
HYSTER N.V. .....NIJMEGEN, THE NETHERLANDS
FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands

HYSTER

HYSTER COMPANY

REPUTATION

Is Mighty Important When You're Getting Up That Saturday Foursome

When you're arranging that Saturday foursome, it's important to see that you get the best golfer on your side!

It's also important to choose the electrical contractor with the best reputation to handle electrical projects in your mill. J. M. Clayton Co. has the reputation and the know-how . . . you'll hear the name mentioned wherever quality electrical contracting is being discussed.

J. M. CLAYTON CO. 1906 50 1956 YEARS

J. M. CLAYTON CO.

CONTRACTING ELECTRICAL ENGINEERS

ATLANTA, GEORGIA

Shorts and Remnants

(Continued from page 18)

Than We think' (Mar. '56) . . . "

WALTER S. COLLINS, JR.
Librarian,
Southern Research Institute
Birmingham 5, Alabama

"Referring to the article 'Continuous Yarn Making,' by Sabert Oglesby, Jr., we should appreciate if you could let us have further details on the article 'Automation for the Textile Industry,' which appeared in a recent issue of the *Bulletin of the Southern Research Institute.*"

J. E. GOMES
Tech. Ing., Belgisch Textielinstituut
Gent, Belgium

Damage in Raw Cotton Interesting

" . . . A complete review of fiber damage is of real value and your detailed bibliography should be of great help for anyone wishing to study the various subjects further. The illustrations were excellent and should clear up a lot of questions regarding identification of different types of damage. . . . "

GEORGE W. PFEIFFENBERGER
National Cotton Council of America
Memphis, Tenn.

"We would like to have a reprint of the article 'Causes and Detection of Damage in Raw Cotton' (May '56) . . . . "

E. C. JACKSON
Erwin Mills, Inc.
Cooleemee, N. C.

Wants Fibers Report

"We have read with interest 'Fibers for the Future' (Jan. '55) and would sincerely appreciate it if you would forward an additional two copies to us for our Associates. . . . "

R. A. GUNTHNER
Union Carbide International Co.
New York, N. Y.

Pleasure Is Mutual

"I think it is happy for me to get a chance to read TEXTILE INDUSTRIES every month. . . . "

WOON YOUNG RYU
Seoul, Korea

That Man Again—Gets Two Copies TI

"Not wishing to be piggish, I feel duty bound to inform you that I am getting two copies of your fine publication while apparently paying for only one. My enthusiastic readership

REPORT FROM SONOCO

ANOTHER EXAMPLE OF

product development

TO MEET SPECIFIC NEEDS

Synthetic Yarn Carrier

Now . . . from SONOCO, a top-notch plastic base, fibre barrel carrier for synthetic yarns. This was originally developed for Fiberglas. With base and barrel modifications, it is adaptable for other yarns. Barrel can be plain, perforated, prick punched, sized, flocked and made with raised or indented scores. Plastic base supplied in various colors for identification.

If you have a carrier problem—consult your SONOCO sales-engineer or write us direct. We are eager to assist you with your production difficulties and our technical facilities are at your service.

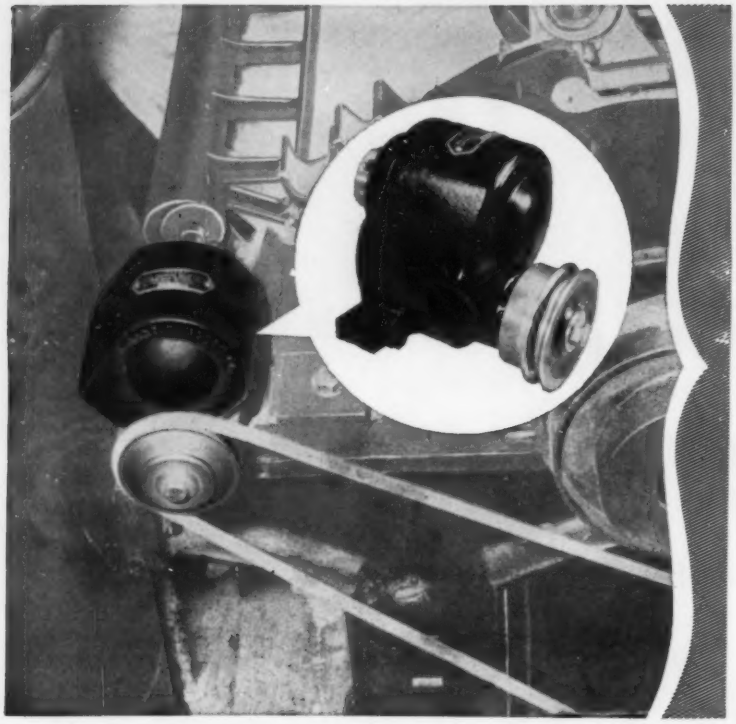
sonoco
PAPER CARRIERS
REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

MAIN OFFICE — HARTSVILLE, S. C.

MYSTIC, CONN. • AKRON, IND. • LOWELL, MASS. • PHILLIPSBURG, N. J.
LONGVIEW, TEXAS • PHILADELPHIA, PA. • LOS ANGELES, CAL.
GRANBY, QUEBEC • BRANTFORD, ONT. • MEXICO, D. F.

DEPENDABLE SOURCE OF SUPPLY



OUTSTANDING SUPERIORITY OF SOUTHERN STATES COMB BOXES PROVED IN NATION'S MILLS

More than 30,000 Southern States Comb Boxes have been placed in service during the past 7 years—equal to 35% of all the nation's cotton cards. Many mills have changed over 100%.

This overwhelming acceptance proves conclusively that mills can easily justify the small investment. Card-room overseers quickly recognize the savings that result from their use: no oiling, cleaning or maintenance for the life of the unit; steady, even strokes to drive the comb with perfection; elimination of hot-running, leaky, rattling old-style boxes and their headaches.

Southern States Comb Boxes are furnished complete with an adjuster base for mounting on any make of cotton card. Bases are double tapped to permit rapid mounting on either right or left hand cards. Installation is quick and easy.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States ball-bearing, sealed-for-life, Comb Boxes; prove how much they will save you in one year. Write direct for a representative to call at your convenience.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

Shorts and Remnants

ended about halfway through the second copy—when I suddenly realized the duplication."

JIM KENNEDY
Bruce Payne & Assoc.
Westport, Conn.

Wants Splicing Equipment

"We notice in your excellent publication many advertisers of textile equipment and were wondering if you could help us locate the manufacturer of some piece of equipment that would enable us to make a splice similar to the reduced size sample we are attaching hereto. . . . "

WM. TRUEBE
Gen. Mgr., Lowell Bleachery, Inc.
St. Louis, Mo.

TI Gets Inquiries

" . . . It may interest you that I got in the meantime abt. 30 enquiries from U.S.A. and Europe; I think I will get some more from other countries. . . . "

MAGNATEX MARTIN HAUCK
Karlsruhe, Germany

Profit Sharing (May '56)

" . . . . We are pleased that you took an interest in what we are doing here and hope that others will find the advantages that we have enjoyed from this type of relationship, which we feel is the next logical step in a democratic capitalistic state. . . ."

JACQUES D. WIMPFHEIMER
Pres., Amer. Velvet Co.
Stonington, Conn.

Coarse Yarns from Drawing Sliver

"We are very interested in the article 'Spinning Coarse Yarn from Drawing Sliver' by Richard C. Moyer (Apr. '56) . . . wondered if it would be possible to obtain a copy or copies

---

Answers to Questions on Page 4

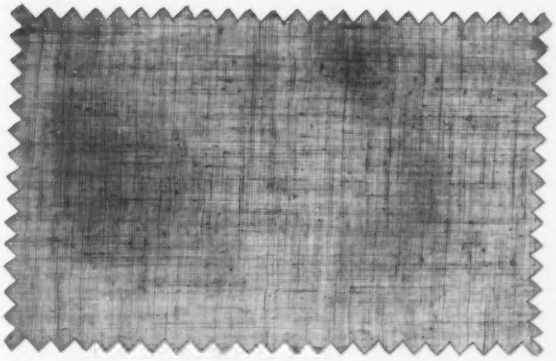
Answer 1—Philadelphia, Pa.

Answer 2—President of the Continental Congress and first signer of the Declaration. Now you know where the saying, "Put your John Hancock on this," comes from.

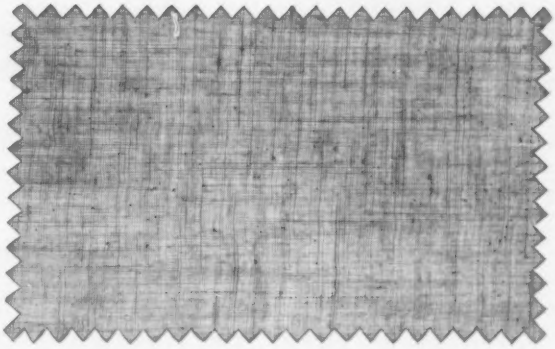
Answer 3—Conn., Del., Ga., Md., Mass., N. H., N. J., N. Y., N. C., Pa., R. I., S. C., Va.

New Morton "PCB" Rock Salt makes the big difference!

Low cost, low calcium "PCB" brine increases color intensity . . . eliminates streaks and off-shading!



Brine made from ordinary rock salt high in calcium can produce harsh, uneven finishes and off-shadings.



Brine made from new Morton "PCB" rock salt means softer finish, more even shades, greater color intensity.

Morton "PCB" Rock Salt is a combination of southern rock salt and special chemicals that produces a low calcium brine. This is a result of a new patented process. This combination is designed to keep harmful calcium deposits from going into solution and thus eliminate them from the brine.

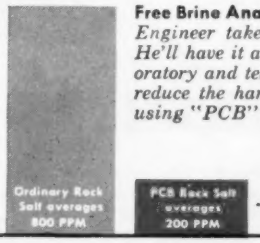
Brine made from "PCB" is *far less expensive* than brine made from purified low calcium evaporated salt. And, as the chart at right shows, "PCB" Rock Salt brine contains approximately 75% *less calcium* than brine made with untreated rock salt. This means "PCB" also saves you money on sequestering agents. (The less than 200 PPM calcium in "PCB" brine will not precipitate.) What's more, "PCB" can be used in your present rock salt dissolving equipment without additional construction or extra labor.

Available in 100-lb. bags or bulk, "PCB" is specifically recommended when brine is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct or naphthol dyes. ("PCB" brine also can be used effectively in your water softener.)

"PCB" Brine

● Improves crock fastness with naphthol dyes ● Increases color intensity where sulphur dyes are used ● Results in softer finishes, more even shade ● Saves money on sequestering agents ● Aids in retarding corrosion.

PPM Calcium in Brine—Brine made from ordinary rock salt contains approximately 4 times more calcium than brine made with new "PCB."



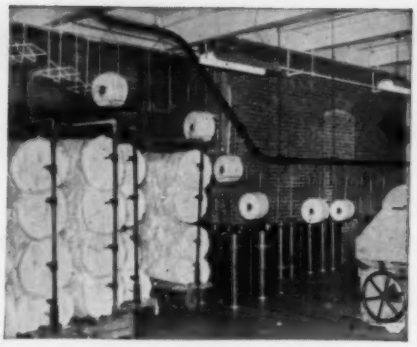
Free Brine Analysis—*Let a Morton Brine Engineer take a sample of your brine. He'll have it analyzed in Morton's laboratory and tell you how much you can reduce the harmful calcium content by using "PCB" Salt.*

☐ *Please send me your free booklet on "PCB"*
☐ *I would also like a Morton Brine Engineer to make an analysis of the brine in my plant.*

Name _____
(Please Print)
Title _____
Company _____
Address _____
City _____ State _____

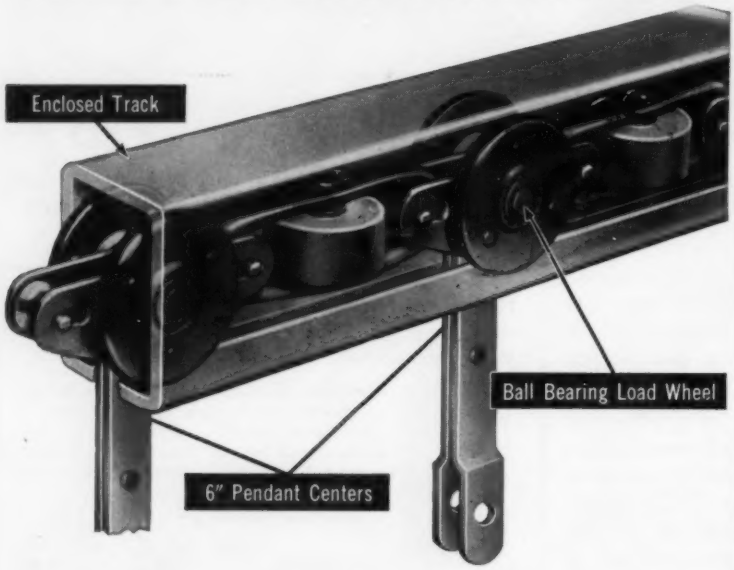
MORTON SALT COMPANY
INDUSTRIAL DIVISION
Dept. TI-7. 120 So. La Salle Street, Chicago 3, Illinois

R-W "Zig-Zag"®



Continuous Power Conveyor

SETS THE PACE FOR QUALITY, SAFETY, EFFICIENCY, ECONOMY



R-W ZIG-ZAG Conveyors offer safer, more efficient, more economical service. The ball bearing chain is fully enclosed for maximum safety and to keep dirt and dust from the moving parts.

ZIG-ZAG is extremely flexible in installation. Standard sections make it easy to conform to any specifications. The system may be expanded, altered or relocated by plant personnel, usually without waste of a single part.

ZIG-ZAG Conveyors carry materials up, down, in, out and around, like water through a pipe. With carrying pendants located on 6-inch centers, ZIG-ZAG can handle most any load required in light and medium industries. A choice of drive units permits travel at any required speed with variations of 10 to 1 or better.

Unlike most other conveyors, ZIG-ZAG can get down and back up again in minimum space due to its standard 2-foot radius vertical curves.

For complete information, write for catalog No. A-93-R.

1880 1956

SLIDING DOOR HANGERS & TRACK · FIRE DOORS & FIXTURES · GARAGE DOORS & EQUIPMENT · DOOR OPERATORS · INDUSTRIAL CONVEYORS & CRANES · SCHOOL WARDROBES & PARTITIONS

Richards-Wilcox Mfg. Co.
MATERIALS HANDLING DIVISION
Branches in Principal Cities

440 W. THIRD STREET, AURORA, ILLINOIS

Shorts and Remnants

of the paper in its entirety. . . ."

NEILL W. CLARK
Gen. Supt., Granite Div.
Shuford Mills
Granite Falls, N. C.

Hosiery Seaming for Nebraska

"Would you please send us six copies of the article entitled 'Training Seamer Operators' (Apr. '54) . . ."

RICHARD L. MARTIN
Supt., Bear Brand Hosiery Co.
Kearney, Nebraska

TI Best Informed

"Please will you give me information where I can study textile application (dyeing, printing, etc.) in the states. . . . Knowing this publication for years as the best informed. . ."

DR. JOHANN WEISS
Sao Paulo, Brazil

► We sent Dr. Weiss reprint of comprehensive article on America's Textile Schools (Apr. '55). Other recent requests for this data included **Lanson Reeves,** Corinna, Me.

Tar Spots Again

"Please let us have about two dozen reprints of your bulletin entitled 'Exterior Tar Spot Concentration 10 Times that Inside Bale' (Mar. '52) . . ."

E. W. CARPENTER
Greenwood Mills
Greenwood, S. C.

► Another finisher reader called to get tear sheets on a little more recent tar spots article, "Two Ways to Remove Tar Spots in Finishing" (Mar. '55). So here we go again. Where do they come from? And how do you get them out? Maybe some Russian spies started them.

Purchasing Reprints All Gone

"Would appreciate receiving 6 reprints of your article on 'Purchasing' which appeared in February issue. . ."

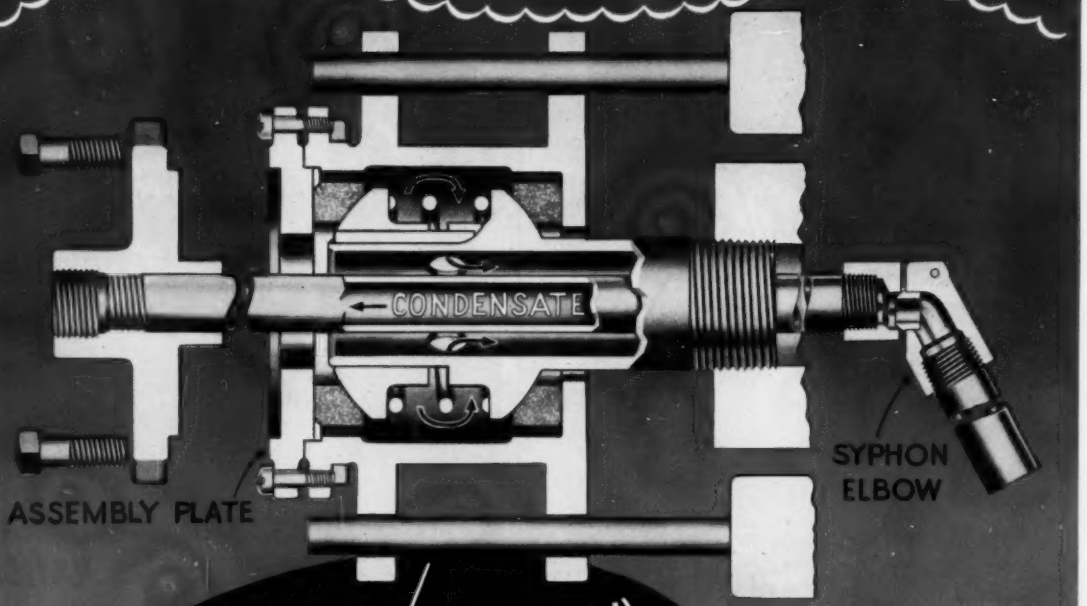
WERNER ANDREASEN
Andreasen Co.
New York, N. Y.

" . . . If this article is available as a reprint, please advise us of the cost and if possible send us one or 2 copies. . . ."

J. M. VELASCO
Celanese Mexicana, S.A.
Mexico 1, D.F.

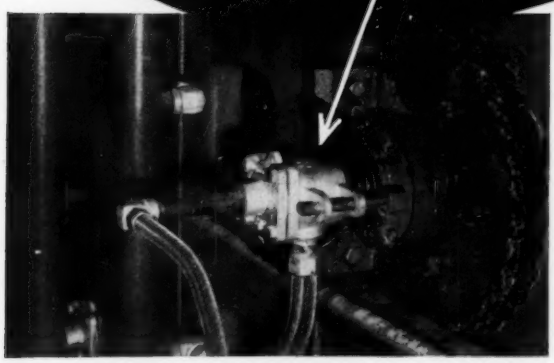
► "Purchasing," widely reprinted, still draws inquiries. We didn't get enough reprints. Sorry, all gone. Look for this feature again in Feb. 1957.

Floating Action makes the big difference!



Cross section view of Type LJ Johnson Joint showing support rods, assembly plate, and Johnson syphon elbow. Steam inlet is in side of body — see installation view below.

ROD SUPPORTED (Type LJ) JOHNSON JOINT and JOHNSON SYPHON ELBOW



Rod-supported Johnson Joint installed in southern mill on 23" diameter x 60" face dry cans operating at 100 yards per minute, 35 lbs. steam pressure.

Write for complete information on Type LJ Joints with Syphon Elbows.

This is the Johnson Joint combination that is proving especially suited for dry cans, print cans and 30" cylinder slashers.

The Type L body has lugs cast on it, so it can be hung on simple supporting rods. All the weight of the housing and pipe connections is thus lifted from the rotating assembly of the joint. These rotating parts "float" freely inside — have only their primary task of maintaining a seal. Longer service life and reduced down-time are direct results.

Perfect team mate is the Johnson Syphon Elbow — successor to the old unwieldy, long radius syphon pipes. It opens to pass through the joint, closes of its own weight to a tight seal when in position. The joint is fitted with a special assembly plate to hold internal parts in position when head is removed to insert or remove the syphon pipe.

Most machinery manufacturers now provide bosses on bearing housings which can be utilized for this type of mounting. So that you can try this combination in your own mill we will gladly supply a couple of units for 90-day test, without any obligation.

Products of The Johnson Corporation

815 Wood St., Three Rivers, Mich.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

PROTECT YOURSELF! Rely on Tyer for both standard and special rubber covered rolls.

Tyer develops, compounds and manufactures a variety of rolls for the papermaking, textile, plastics, leather, packaging and abrasives industries and many others.

These rolls are made from natural rubber, Buna-S, neoprene, Buna-N (Hycar) or Compar. They vary in size from a few ounces up to 20 tons. Many of them have specially-ground surfaces, such as worms or grooves. All of them give outstanding service.

Take advantage of Tyer's 30 years' experience with rubber rolls. Send for our new catalog. Or write to Tyer today outlining your problem — we'll send a Tyer Sales Engineer to your plant. No obligation, of course.

Our 100th TYER Anniversary

Tyer *Rubber Company*

ANDOVER, MASSACHUSETTS, U. S. A.

For EFFICIENCY and DURABILITY

Gastonia

PRECISION-BUILT PARTS

Get BETTER OPERATION and LONGER SERVICE with

Gastonia

Card Screens

GASTONIA standard type rib or perforated Card Screens are cut and assembled on specially designed precision-built jigs.

Maximum operating efficiency and utmost durability of these Card Screens is assured by thorough checks at various stages of manufacture. Scientific final inspection guarantees setting points within standard tolerance.

GASTONIA Card Screens, like all other GASTONIA Products, are precision-built from the finest materials by highly skilled workmen having many years of practical experience.

Gastonia TEXTILE SHEET METAL WORKS, INC.
Gastonia, North Carolina

A sheet metal works serving textile mills

CYLINDERS
Dynamically balanced for better performance—reduce vibration to an absolute minimum.

SCREENS
Picker, Condenser and Waste Machine Screens of maximum strength and durability.

ASPIRATORS
Precision manufacturing methods assure proper shape and balance of Aspirators and Aspirator Dampers.

LAP CONDUCTOR TINS
WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
BACK TINS

COMBER RENEEDLING
Top Combs, Half Laps and Winder Guide Combs precision-rebuilt of top quality materials to manufacturer's standard specifications. Imported English needles of tempered high-tensile steel used exclusively.

LUSTRE

that lives... for the life of the fabric!

GLITTERING FAIRTEX® YARNS with Metallized Mylar*

FAIRTEX Yarns with Metallized Mylar* never lose their glittering glamour . . . and outlast even the fabric itself!

Specifically developed for use in upholstery and drapery materials, mattress ticking, and hosiery, FAIRTEX Yarns with Metallized Mylar* are highly heat resistant, can be safely washed, drycleaned or scoured and do not tarnish.

There's no flaking or breaking of metal when you weave or knit with FAIRTEX.

For economy and efficiency, start using FAIRTEX Yarns with Metallized Mylar* *now* with cotton, wool, silk, linen or synthetics. You get greater yield per pound with smoother, more pliable and more uniform FAIRTEX Yarns.

*Registered Trademark for Dupont's Polyester Film

...lustre that lives... for the life of the fabric!

FAIRTEX® YARNS

Metallized Mylar* • Metallic • Supported Metallic

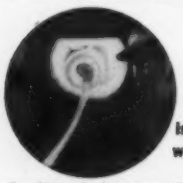
FAIRTEX CORPORATION—CHARLOTTE, N. C.

CHICAGO	CHARLOTTE	NEW YORK
Napier & Harshman 3555 Peterson Ave.	Lanier Branson, Jr. and J. E. MacDougall, Jr. 1808 Liberty Life Bldg.	Robert Napier 51 E. 42nd St.

Ask these questions, too, when you judge a fluorescent lamp . . .

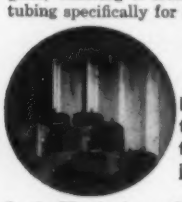
Is your investment protected?

Check Westinghouse Fluorescent Lamps against any other brands you are now using. Check them for maintained brightness, long life, uniform appearance. If you are not entirely satisfied on all counts, your full purchase price will be refunded.



Is it built with tailored glass?

Quality of glass in a fluorescent lamp directly affects lamp performance. Westinghouse makes all of its own fluorescent lamp glass, tailoring it from silica to finished tubing specifically for fluorescent service.



Is it the correct type, size and color for the lighting job to be done?

In the Westinghouse fluorescent family of 290 different lamps—including Slimline and Rapid Start—there's a type and size precisely right for every office, plant and merchandising application. Colors include seven different shades of "white" alone.

For the full story on how to get more for your money in fluorescent light, contact your Westinghouse Lamp Representative. "You can be sure if it's Westinghouse."

WATCH WESTINGHOUSE!

*WHERE **BIG** THINGS ARE HAPPENING FOR **YOU!***

Personal NOTES

ABOUT MEN YOU KNOW

Joseph H. Axelrod, president of Wamsutta Mills, New Bedford, Mass. and Wamsutta Decorative Fabrics Inc., and vice-president of Pacific Mills Domestics Corp., has been elected to the board of M. Lowenstein and Sons, New York, N. Y.

V. N. Banis, formerly controller of The Duplan Corp., New York, N. Y., has been elected secretary-treasurer. **Miss Rose S. Krakusin** has been appointed assistant secretary.

A recent initiate into Phi Psi at the Georgia Institute of Technology is **John P. Baum,** vice-president of J. P. Stevens & Co., Milledgeville, Ga. Mr. Baum was selected for honorary membership in this national textile fraternity because of his achievements in the textile field and civic activities.

Bert I. Bertelsen is now vice-president in charge of manufacturing of the two Drycor Felt Co. plants in Staffordville and Rockville, Conn. He was formerly a consultant of Drycor.

William H. Bollin, general manager of the Mayodan and Dobson, North Carolina, plants of the Washington Mills Co., has retired after 36 years with the company. **John Thomas Cashion,** assistant general manager, succeeds Mr. Bollin.

At Aragon (Ga.) Mills, a unit of United Merchants and Manufacturers, Inc., **Albert E. Bowman** has been promoted from first shift supervisor of spinning to general overseer of carding and padding manufacture, replacing R. C. Webb, who resigned.

Gerald L. Bruck, president of Bruck Mills, Ltd., Montreal, Quebec, Canada, is new president of the Silk & Rayon Institute, succeeding Brinley Taylor, Montreal, vice-president of Courtaulds (Canada) Ltd. **Frank G. Raymant,** Montreal, manager of the films and textile fibers department of Du Pont Company of Canada, Ltd., is vice-president of the Institute.

T. G. Carter, chairman of the Australian Wool Bureau, has been elected chairman of the board of directors of The Wool Bureau, succeeding Steve L. Stumberg of Sanderson, Texas, who retired due to ill health. **Edwin S. Mayer** of Sonora, Texas, fills Mr. Stumberg's place as a director and member of the Bureau's executive committee.

New president of Cowikee Mills, Eufaula, Ozark, and Union Springs, Ala., is **Donald Comer, Jr.,** formerly vice-president. Donald Comer, Sr., resigned as acting president of the company and is now chairman of the board. Newly added members to the executive staff are **J. Brady Rogers,** Eufaula, executive vice-president, and **Archie Clark,** vice-president and assistant secretary.

Honorary initiates of Phi Psi, who became members of the society during the group's 53rd annual convention held at the Alabama

Polytechnic Institute are (left to right) **B. G. Stumberg,** general agent, Tallassee (Ala.) Mills; **Joe Lanier,** president of West Point (Ga.) Manufacturing Co.; **P. N. Collier,** general manager and vice-president, Elmrose division, Callaway Mills, LaGrange, Ga.; and **Dr. Ralph B. Draughon,** president of API.

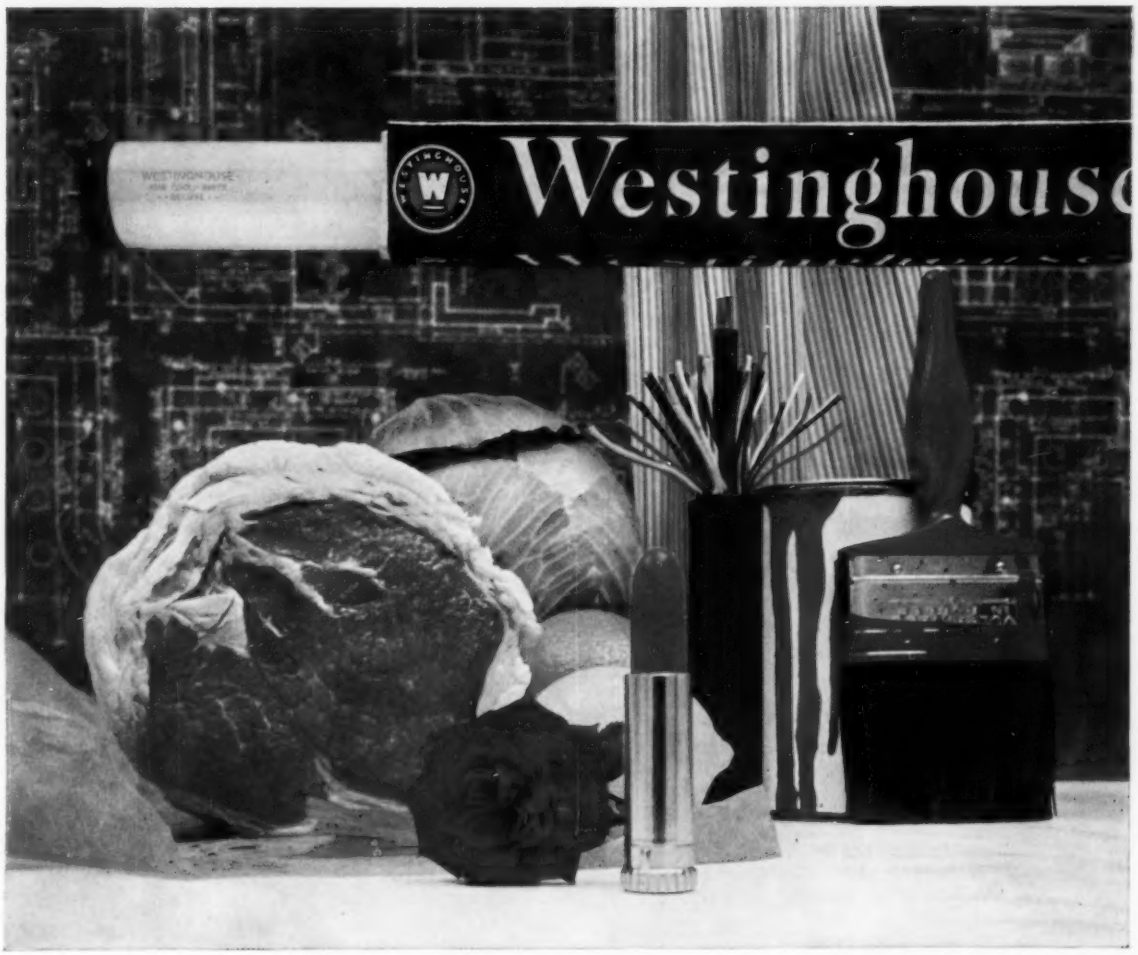
Belton W. Cooper, picker room foreman in the carding department of Joanna (S. C.) Cotton Mills, has retired after 24 years with the mills

Harvey H. Crawford, formerly with Burlington Mills, has been named third shift supervisor of weaving at Aragon (Ga.) Mills, a unit of United Merchants and Manufacturers, Inc. Mr. Crawford replaces T. W. Jones, who resigned.

Edward J. Dacey, director of research and engineering for A. & M. Karagheusian, Inc., Freehold, N. J., planned to retire June 1, after 15 years with the company. **Douglas H. McElhinney** has been appointed director of research. **Ernest D. Lokerson** has accepted a position as chief

(Continued on page 36)

how to judge a fluorescent lamp . . . point no. 5

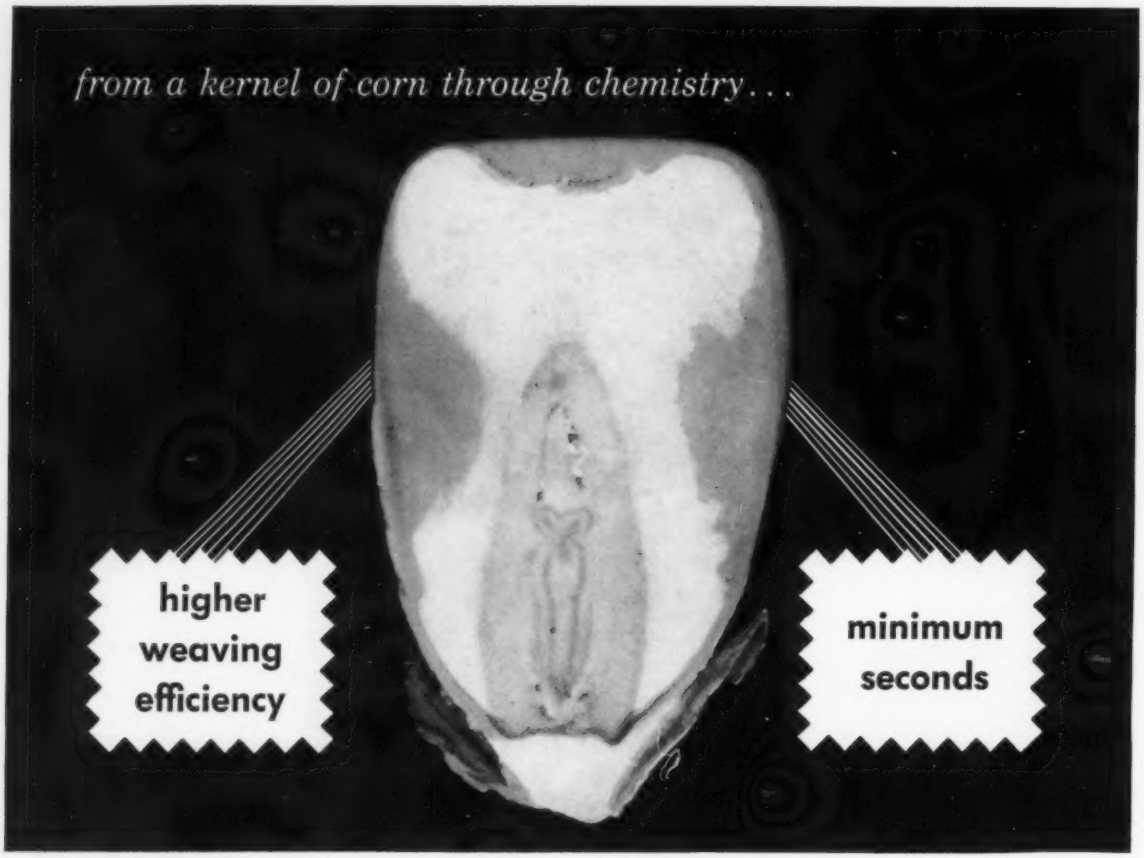


ask about **COLOR RENDITION**

If you're like most businessmen today, you know how the proper use of color can speed a lagging production line, work wonders with office morale, give merchandise extra sales appeal. What you may not know, however, is that the color of any surface—be it desk top or cabbage leaf, electrical lead or your secretary's complexion—is largely determined by how that surface is lighted. *And* that light just right for Job A may be all wrong for Job B. Westinghouse fluorescent lamps—available in seven different shades of "white" alone—offer you precisely the proper color of light for jobs from A to Z. "You can be sure if it's Westinghouse."

WATCH WESTINGHOUSE!

*WHERE **BIG** THINGS ARE HAPPENING FOR **YOU!***



NALEX®: a warp size for spun rayon and worsted yarns

NALEX is starch changed through chemistry. It is noncongealing. Because of this, Nalex improves penetration; prevents hard size; and forms stronger, more continuous films on spun rayon or worsted yarns.

The result?

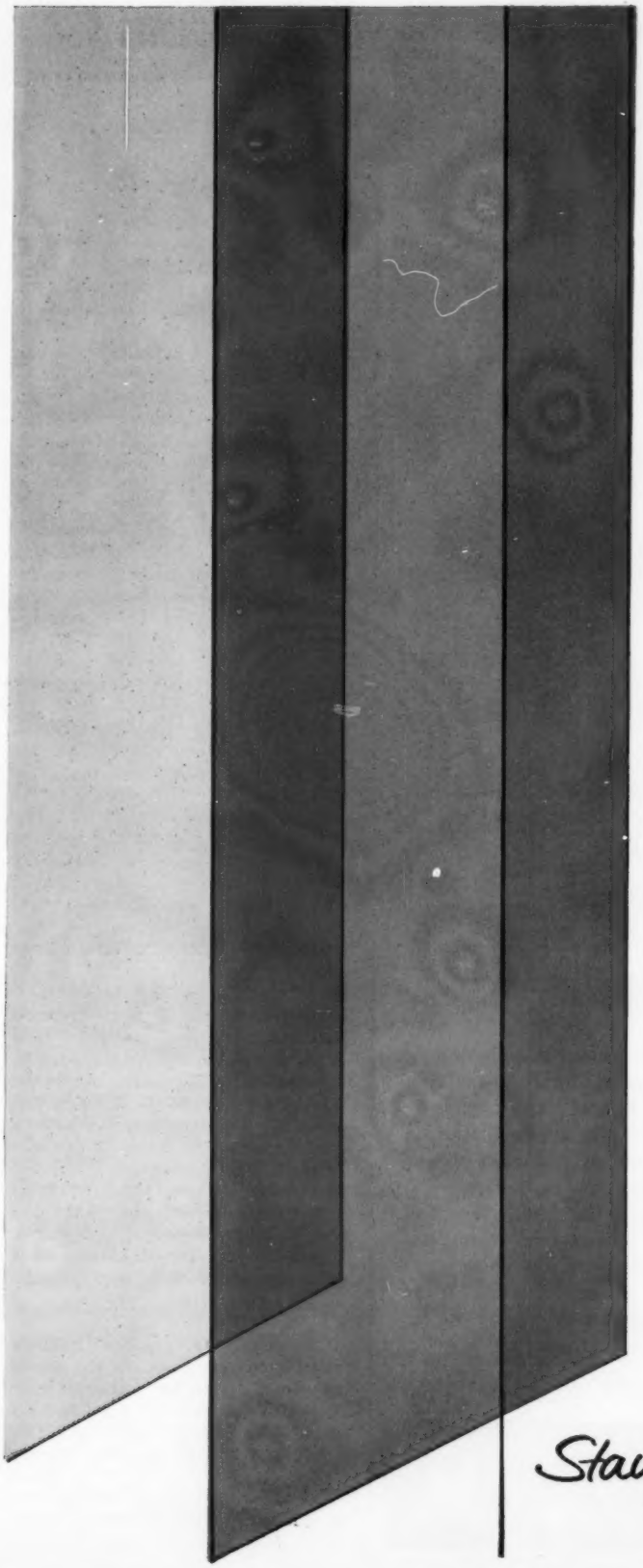
Seconds are reduced. Efficiency is increased—even at low humidities.

NALEX is compatible with resins and synthetic binders. Highly recommended for sizing the new blends of natural and miracle fibers.

STARCHES **National** RESYNS®

STARCH PRODUCTS INC.

National Starch Products Inc., 270 Madison Ave., New York 16, N. Y. • Atlanta • Boston • Philadelphia
In Canada: National Adhesives (Canada) Ltd., Montreal



CARBON BISULFIDE... UNLIMITED!

Manufacturers of viscose rayon, cellophane, grain fumigants and special solvents can look to Stauffer for Carbon Bisulfide of highest purity.

Nine plants throughout the country assure a steady supply of this basic chemical. Anticipating future needs, Stauffer has one *new* plant under construction and another in process of enlargement.

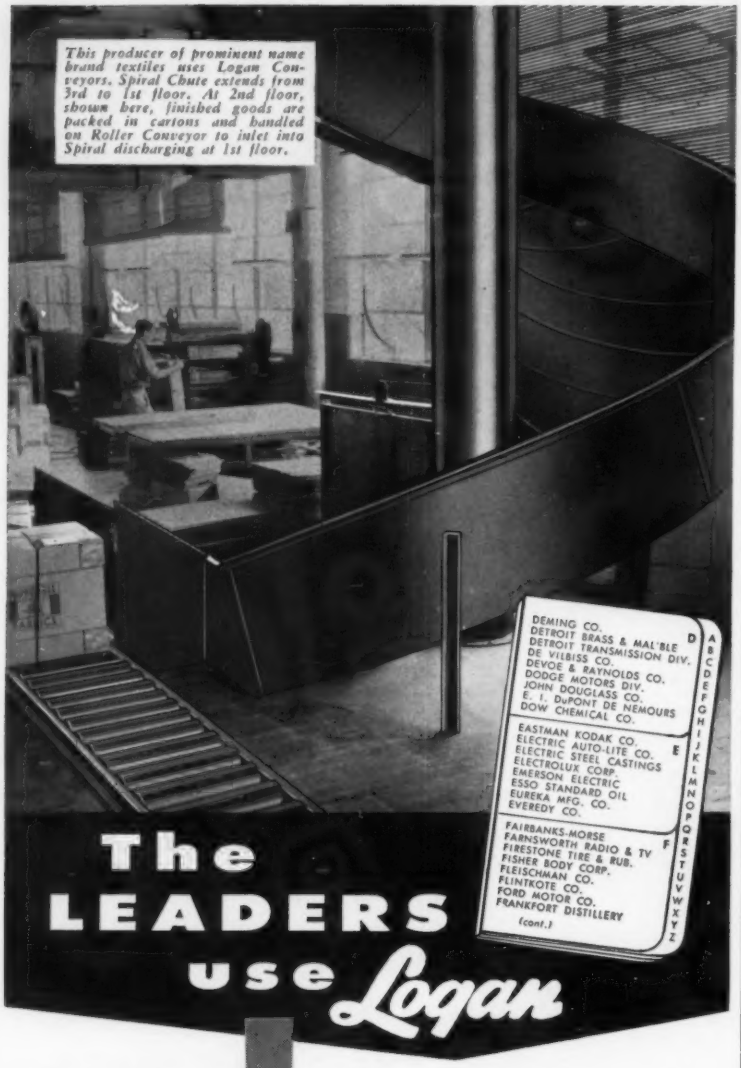
For Carbon Bisulfide of highest purity in drums and tank cars . . . talk with any Stauffer representative.

STAUFFER CHEMICAL COMPANY

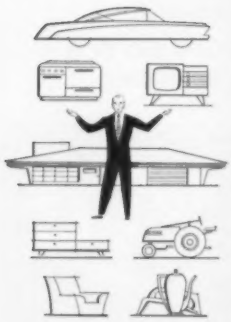
380 Madison Avenue, New York 17, N. Y.
Telephone: OXford 7-0600

Stauffer CHEMICALS SINCE 1885

Stauffer means service


This producer of prominent name brand textiles uses Logan Conveyors. Spiral Chute extends from 3rd to 1st floor. At 2nd floor, shown here, finished goods are packed in cartons and handled on Roller Conveyor to inlet into Spiral discharging at 1st floor.
DEMING CO.
DETROIT BRASS & MAL'BLE
DETROIT TRANSMISSION DIV.
DE VILBISS CO.
DEVOE & RAYNOLDS CO.
DODGE MOTORS DIV.
JOHN DOUGLASS CO.
E. I. DuPONT DE NEMOURS
DOW CHEMICAL CO.
D
EASTMAN KODAK CO.
ELECTRIC AUTO-LITE CO.
ELECTRIC STEEL CASTINGS
ELECTROLUX CORP.
EMERSON ELECTRIC
ESSO STANDARD OIL
EUREKA MFG. CO.
EVEREDY CO.
E
FAIRBANKS-MORSE
FARNSWORTH RADIO & TV
FIRESTONE TIRE & RUB.
FISHER BODY CORP.
FLEISCHMAN CO.
FLINTKOTE CO.
FORD MOTOR CO.
FRANKFORT DISTILLERY
(cont.)
F
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

The LEADERS use Logan



"Staying out in front" often is just as difficult as getting there in the first place. That is one of the reasons why America's leading industries depend on Logan Conveyors as an integral part of their productive processes. Speeding output, enlarging capacity, conserving manpower, and decreasing labor turnover are major Logan functions which you, too, can use to advantage. Write for nearest engineer or for further information.

LOGAN CO. 206 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 32)

engineer.

Clinton W. Dawson, vice-president and general manager of Franklin Process Co., Providence, R. I., has been re-elected president of the Rhode Island Textile Association.

A bronze tablet, in honor of the late **Ward Delaney,** first executive director of the Oscar Johnston Cotton Foundation, has been placed in the lobby of the Foundation building in Memphis, Tenn., headquarters for the National Cotton Council.

Thomas Dever, for 34 years associated with James Lees and Sons Co., Glasgow, Va., has recently been employed by Palmetto Worsted Mills, Laurens, S. C., as night superintendent.

H. J. Forbes, formerly an engineer for Fulton Bag and Cotton Mills, Atlanta, Ga., has resigned to accept a position with The Celanese Corporation of America at Rome, Ga.

Jerry Frisch has been elected president of the H. E. Frisch Knitting Mills Co., of Cleveland, Ohio, succeeding his father, the late Harry E. Frisch. **Marc Frisch,** another son of the founder, has been named vice-president, in addition to his duties as secretary.

Leroy Springs Gaffney, formerly assistant manager of Springs Cotton Mills, Lancaster, S. C., has joined M. Lowenstein & Sons, Inc., Anderson, S. C., as assistant to J. J. Lyons, executive vice-president in charge of manufacturing of the southern mills of the company.

Arthur Goosetrey, who for the past year has been overseer of dyeing at Fairmount Dye Works, Woonsocket, R. I., is now with Red Top Dyeing Co. in that same city.

At Lowell Technological Institute commencement exercises the doctor of science degree was conferred upon **Barnett D. Gordon,** president-treasurer, M.K.M. Knitting Mills, Inc., Manchester, N. H., and Laurens Hosiery Mills, Inc., in Laurens, S. C.; president and director of the Texas Knitting Mills, Inc., Mineral Wells, Texas,

(Continued on page 40)

new Bahnson Collecto-Vac

FOR COLLECTING LINT AND BROKEN ENDS

Bahnson Collecto-Vacs on frames in Spinning Room of Aleo Manufacturing Co., Div. of M. Lowenstein & Sons, Inc.

Top textile firms find greater performance advantages with the efficient Bahnson Collecto-Vac

A PARTIAL LIST OF USERS

M. LOWENSTEIN & SONS, INC.
GRANITEVILLE MILLS
WALTON COTTON MILLS
NEW BRAUNFELS TEXTILE MILLS
BIBB MANUFACTURING COMPANY
SPRAY COTTON MILLS
J. M. ODELL MANUFACTURING CO.
KENDALL MILLS
JOANNA COTTON MILLS COMPANY
CLIFTON MANUFACTURING COMPANY
DACOTAH COTTON MILLS, INC.
MT. VERNON-WOODBERRY MILLS
BURLINGTON INDUSTRIES, INC.
ERWIN MILLS, INC.
JOHNSTON MANUFACTURING CO.
DAN RIVER MILLS
COWIKEE MILLS, INC.
COMPANIA COLOMBIANA DE TEJIDOS
ABBOTT WORSTED MILLS

Bahnson Collecto-Vac

Mill-proved Collecto-Vac features offer you more for your investment as standard equipment

IN MATERIALS: Attractive anodized aluminum flutes — *no warpage or cracking.* Rugged 14 gauge stamped steel collection box.

IN DESIGN: More uniform suction pressure. Scroll type fan discharge to *disperse* motor alley heat, not *concentrate* it.

Belt driven fan for flexibility, or internal motor for economy. (A scroll type fan is used with both designs.)

IN PERFORMANCE: Greater cleanliness and collection of flying lint. Positive end collection the length of the frame. Lower horsepower at same CFM and suction pressure.

FREE BULLETIN

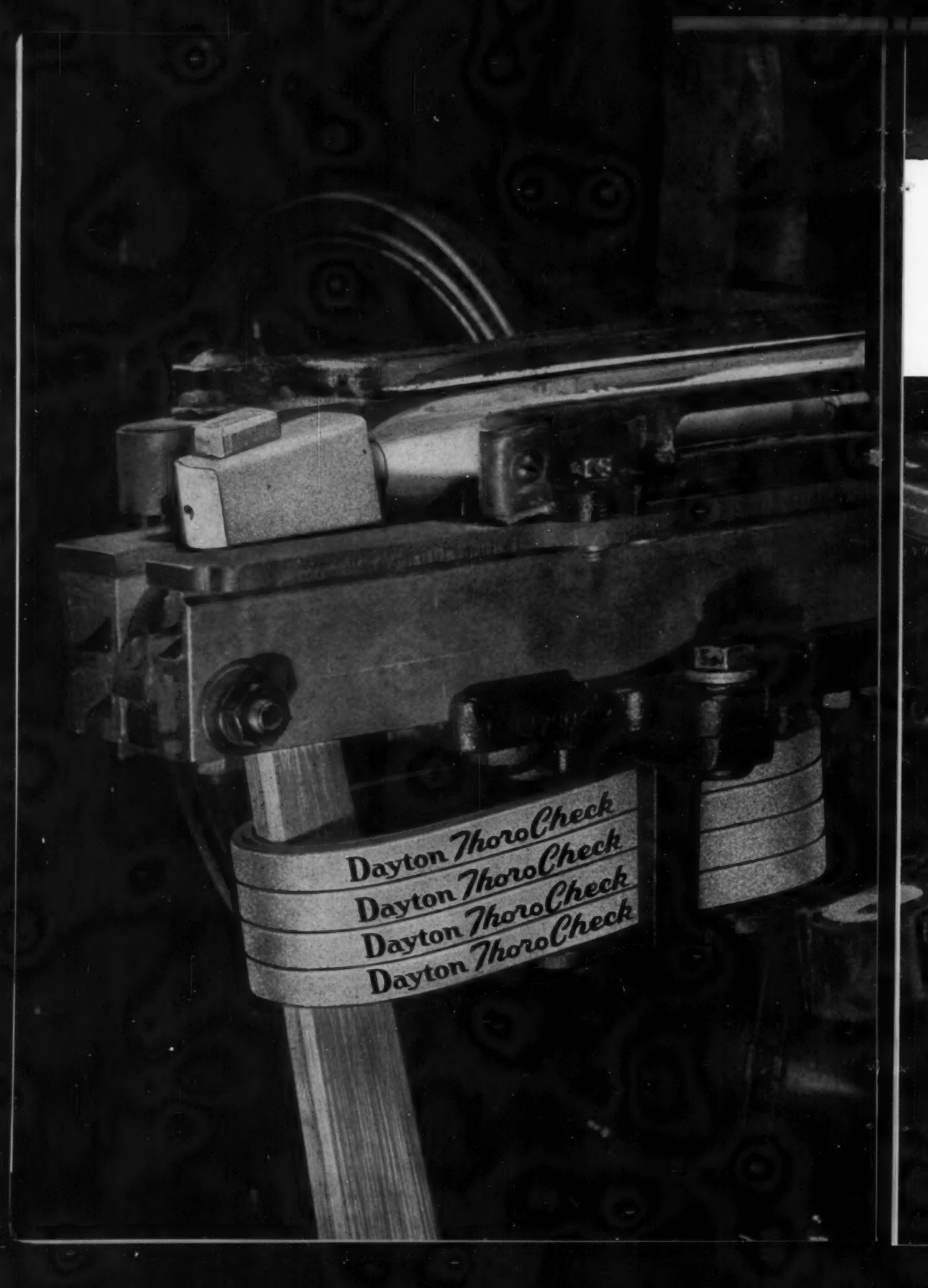
Write us today for our free booklet containing detailed information on the new Bahnson Collecto-Vac.

Bahnson COMPANY
WINSTON-SALEM, N. C.

AIR CONDITIONING / CLEANING
VACUUM COLLECTION

91 of the top 100

Of the nation's 100 top textile manufacturing firms, 91 are users of Bahnson equipment!


Dayton ThoroCheck
Dayton ThoroCheck
Dayton ThoroCheck
Dayton ThoroCheck

Improve your Picker Control and save 25 to 50 percent

In Picker and Check Strap Costs!

One mill saved 50% on picker replacement by installing Dayton Thorobred Loop Pickers. It's easy to see why, too. Daytons, molded in one piece, won't break when driven onto the stick.

Dayton Loop Pickers cushion millions of shuttle contacts without strain. And contact is perfect every time because of the slightly tilted, flared-bottom picker stick hole that insures easy, accurate seating and exact fit. Smooth sides and round corners practically eliminate jerked in fillings, save time and money – increase production.

Other mills report 25 to 50% savings in check strap costs with Dayton ThoroCheck Endless Check Straps.

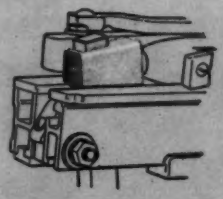
Typical proof: One mill ran Daytons on X-2 looms 24 hours a day, 5 days a week. After 2400 hours, no wear was apparent, no adjustment needed. Other check straps lasted half as long.

Revolutionary in design and construction, Dayton ThoroCheck straps eliminate drag over stick, give safe, graduated braking in both directions. Temperature or humidity never affect them, so you're assured fast, Monday starts.

Try Dayton Thorobred Loop Pickers and Dayton ThoroCheck Endless Check Straps on your looms for perfect control, sizeable savings. Your Dayton Representative will arrange a test or write *Dayton Rubber Co., Textile Div., 401 S. Carolina National Bank Bldg., Greenville, S. C.*

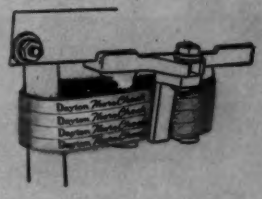
© D.R. 1956

Dayton Thorobred Loop Picker



New Design! Narrow back eliminates wear on lay end strap.

Dayton ThoroCheck Check Straps



Extra economy! Can be replaced singly or in sets.

Dayton Rubber 51 YEARS OF PROGRESS

Dayco and Dayton Thorobred Textile Products for better Spinning and Weaving.

ANHEUSER-BUSCH, INC.

ANHEUSER-BUSCH, INC.

Sign of highest quality

STARCHES
Standard and Homogenizer starches for warp sizing and finishing.

DEXTRINES
Warp sizing, printing, dyeing and finishing.

GUMS
Warp sizing and finishing.

Sales offices . . . CORN PRODUCTS DEPT.

ST. LOUIS, MISSOURI
721 Pestalozzi Street

NEW ORLEANS, LA.
314 Girod Street

KALAMAZOO, MICHIGAN
1122 Royce Avenue

NEW YORK, NEW YORK
33rd St. and 12th Ave.

CHICAGO, ILLINOIS
750 So. Clinton

CHARLOTTE, N. C.
1208 Johnston Bldg.

COLUMBUS, GA.
2319 Hamilton Rd.

SAN FRANCISCO, CALIF.
465 California

CAMBRIDGE, MASS.
111 Sixth Street

PHILADELPHIA, PA.
328 E. Chelten Ave.

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 36)

and of the New Hampshire Finishing Corp. in Manchester.

Nelson H. Harte, formerly a director and vice-president of Barnes Textile Associates, Boston, Mass., and Spartanburg, S. C., is now with the Morgan Cotton Mills, Inc., Laurel Hill, N. C., as general superintendent.

Recently re-elected president of the North Carolina Textile Foundation was **J. Harold Lineberger,** secretary-treasurer of Linford Mills, Inc., Belmont; vice-president, **Clyde W. Gordon,** general manager and executive vice-president Standard Hosiery Mills, Inc.; and treasurer, **A. Alex Shuford,** treasurer of Hickory Spinners, Inc.

Dan T. Henderson, former Charleston, S. C., newspaperman and research secretary for S. C.'s governor, George Bell Timmerman, Jr., has

Mr. Henderson

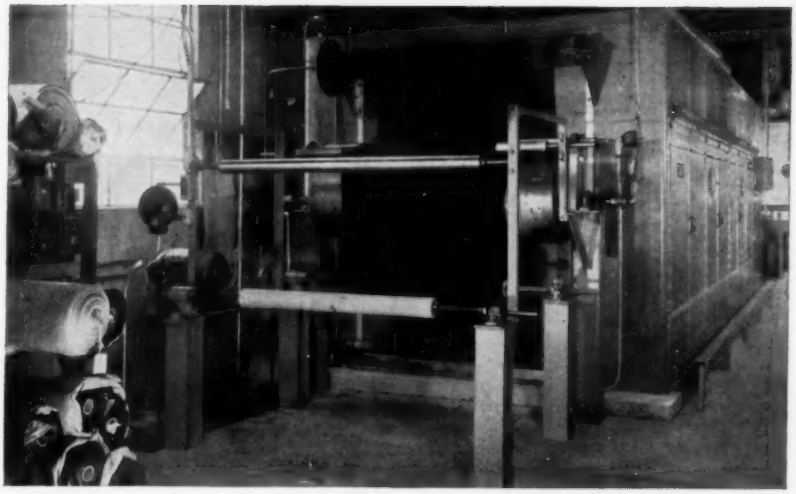
joined the staff of the American Cotton Manufacturers Institute in the field of public relations and community relations, with headquarters in Columbia, S. C.

William L. Jarrett, formerly manager of the Bridgeport, Pa., plant of James Lees and Sons Co., has been appointed general manager of the new tufting plant at Rabun Mills Rabun Gap, Ga. **William Eakes,** who has been an engineer at the Lees weaving plant at Glasgow, Va., is engineer of the Rabun Mills operation.

Willis E. Johnson, Jr., has been elected vice-president in charge of manufacturing of Mount Vernon

THE NEW Proctor ROLLER CURER

gives 35% higher cures . . .
Doubles Production at Oxford



The installation of a new Proctor Roller Curer together with rearrangement of existing facilities, has enabled the Oxford Textile Finishing Company, Oxford, N.J., to increase production from 50,000 to 105,000 yards per day. At Oxford, the new curer achieves 85 to 95% cures.

through . . .

UNIFORMITY OF CURING

•

CONTINUOUS RANGE OPERATION

•

CONTROL OF FABRIC TENSION WHILE RUNNING

•

ELIMINATION OF RERUNS

NEW DESIGN FEATURES

New Proctor ⋇ construction reduces installation costs, provides efficient, air tight and well insulated housing—smooth, easy to clean surfaces. Uniform air distribution promotes uniform curing without shading. Variable speed motors power each alternate top roller.

Tension can be adjusted from minimum to maximum while the machine is in operation according to the requirements of the fabric being cured.

Unique roll drive permits Roller Curer being placed in range operation with no change in present drive arrangement.

To find out about the complete "Oxford Story" as well as the advantages of a Proctor Roller Curer in your mill, write for latest information bulletin #412.

PROCTOR EQUIPMENT FOR THE TEXTILE FIELD

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTIPASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR TUBULAR KNITS • EQUIPMENT FOR PRODUCING "REDMANIZED"® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

Proctor **PROCTOR & SCHWARTZ, INC.**

Philadelphia 20, Pa.

Manufacturers of Textile Machinery and Industrial Drying Equipment

HOT WEATHER AHEAD

BEAT THE HEAT WITH THESE SPECIALIZED

G-C LUBRICANTS

GEARCO "A"

A new semi-fluid lubricant for Gears and Cams. Reports from the field and repeat orders indicate that "Gearco A" is doing a fine job. It may be the answer to YOUR problem.

BEN-BOY LUBRICANT is unsurpassed for dryers, calenders, slashers, printing machines, dye house lubrication, pre-boarders, kilns, etc.

G-C NON-MELTING OILS have proven their worth for top rolls, comb boxes, looms and motors.

Write, wire or phone

GEORGIA CAROLINA OIL COMPANY

Box 101 MACON G-C GEORGIA Phone 2-1428

Personal NOTES ABOUT MEN YOU KNOW

Mills, Inc., Baltimore, Md. **E. H. A. Grassi** was named assistant vice-president in the production planning division.

Fred I. Kent II, is now assistant production manager of Exeter Mfg. Co., Exeter, N. H.

New officers at Midwest Woolen Manufacturers Association are: **Robert Klemer,** Faribault (Minn.) Woolen Mills, president; **A. H. Heinze,** Amana (Iowa) Woolen Mills, vice-president; **A. A. Guidotte,** Rock River Woolen Mills, Janesville, Wis., secretary-treasurer.

Sam R. Levy is now superintendent of the screen printing division of Princeton Knitting Mills, Watertown, Conn.

Abe H. Liebster, M. & M. Knitting Mills, Philadelphia, Pa., has been re-elected president of the National Knitted Outerwear Association. **Israel Cohen,** Suffolk Knitting Mills, Lowell, Mass., is new vice-president.

The Underwear Institute has named as secretary, **Robert D. McCabe,** who was formerly field secretary for the Architectural Woodwork Institute.

E. A. McEwen, formerly agent of the Rochester, N. H., plant of Wyandotte Worsted Co., is now a director and assistant general manager, having jurisdiction of all four plants. He succeeds the late Edwin W. McGowan.

Frank C. Mawby, president of Bates Manufacturing Co., Lewiston, Maine, has been named board chairman of its subsidiary, Bates Fabrics, Inc.

Dan C. Minich, previously with Cone Mills Corp. where he served as superintendent of the spinning and weaving mills producing synthetic blends, has joined Scheuer & Company in New York, N. Y., where he will be concerned with the technical activities of the company and its affiliates.

Melrose Hosiery Mills, Inc., High Point, N. C., has announced the resignation of **W. E. Mitchell** as vice-

Call MILTON for dependable BEAMS

Light Metal featuring continuous welded construction

NYLON & RUBBER YARN BEAMS

FORGED HEADS
RIGID BARRELS

Forged heat-treated aluminum alloy heads and extra heavy wall barrels designed to withstand extreme pressures of monofilament; fine denier; low-turn nylon; and rubber yarns. 13¾" and 21" diameter heads.

SECTION BEAMS

Adaptable to all makes of warpers. Cast aluminum alloy heads and extruded aluminum barrels cannot shrink, swell, splinter or distort.

STEEL BARREL WARP BEAMS

for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS

for C & K and Draper Looms

Shown above is Milton's stud construction (also made with cast iron, hubs).

RIBBON LOOM BEAMS

Adjustable head with fixed shaft, or fixed head with removable shaft.

WRITE FOR FREE BULLETINS

MILTON MACHINE WORKS
INCORPORATED
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON • PENNA.

MICROROK®

STOWE-WOODWARD'S

MIRACLE

Roll Covering

means higher production,
lower maintenance
for TEXTILE FINISHERS

First installed in a carbonizer four years ago, running at high speeds, and subjected to attack by acids, moisture and heat, a Stowe-Woodward MICROROK bottom roll was tested in continuous operation. When removed for inspection after two years, tests showed less than .001" loss of crown. It is still running and two additional MICROROK rolls are now in this plant.

Even without considering the economy of its original cost compared with any metal roll, savings in down-time for maintenance alone are substantial.

MICROROK is a rubber base compounded with micro-mineral particles to produce a cover with the inherent resilience of rubber combined with the permanence of metal. MICROROK resists temperatures to 180°F, is impervious to moisture, chemically inert, acid resistant . . . easier to regrind when necessary, Microrok's microscopic depressions grip fabric, and prevent slippage.

Successful applications now include padders, mangles, squeeze and washer rolls as well as carbonizers. Wherever a roll is expensive to remove for service, is a good place to specify Stowe-Woodward MICROROK. Your Stowe-Woodward Sales Engineer will be happy to discuss specific details.

"RUBBER ROLLS with a REPUTATION"

S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

Booth

Originators of STRIP-O-MATIC*

CARD CLOTHING

SUPR-O-TAPE

THE FIRST AND ONLY SUCCESSFUL FABRIC TAPE FOR CONDENSERS

Two years of actual mill use testifies to these amazing facts:

- Longer Life
- Extra Strength
- Increase Production
- Improve Quality
- Surface Won't Crack
- No Oiling Needed
- Yarn Uniformity Improved
- No Stretch—Less Sag
- Keep Square Edges
- Retain Full Width
- No Breaking In
- Permit Wider Range of Counts
- Fewer Ends Down
- Easily Cleaned
- Endless or Continuous
- Belt Hooks Hold
- Not Affected by Emulsions

STRIP-O-MATIC **CARD CLOTHING** *IN TWO TYPES*

CONVENTIONAL CARD CLOTHING

QUALITY AND SERVICE FOR 65 YEARS *Patented

BENJAMIN BOOTH COMPANY

ALLEGHENY & JANNEY STS., PHILA., PA.

Booth

Personal NOTES *ABOUT MEN YOU KNOW*

president in charge of seamless production. **A. Glenn Smith** has assumed his duties.

W. E. Moond, overseer in the spinning room at Standard-Coosa-Thatcher Co., Piedmont, Ala., was honored by employees of his department, at a dinner given on the occasion of his retirement after 45 years of service to the company.

Forstmann Woolen Co., Passaic, N. J., has made **Rudolph Meuser** manager of the finishing department with responsibility for the entire finishing and piece dyeing operation.

George W. Pfeiffenberger, fiber technologist for National Cotton Council, Memphis, Tennessee, has been named executive vice-president for Plains Cotton Growers, Inc., Lubbock, Texas, where he will be concerned with activities aimed at solving cotton production problems in the area, improving and stabilizing fiber and seed quality, improved merchandising and promotion of short-staple consumption, and analysis of government policies affecting Plains cotton.

Mr. Pfeiffenberger

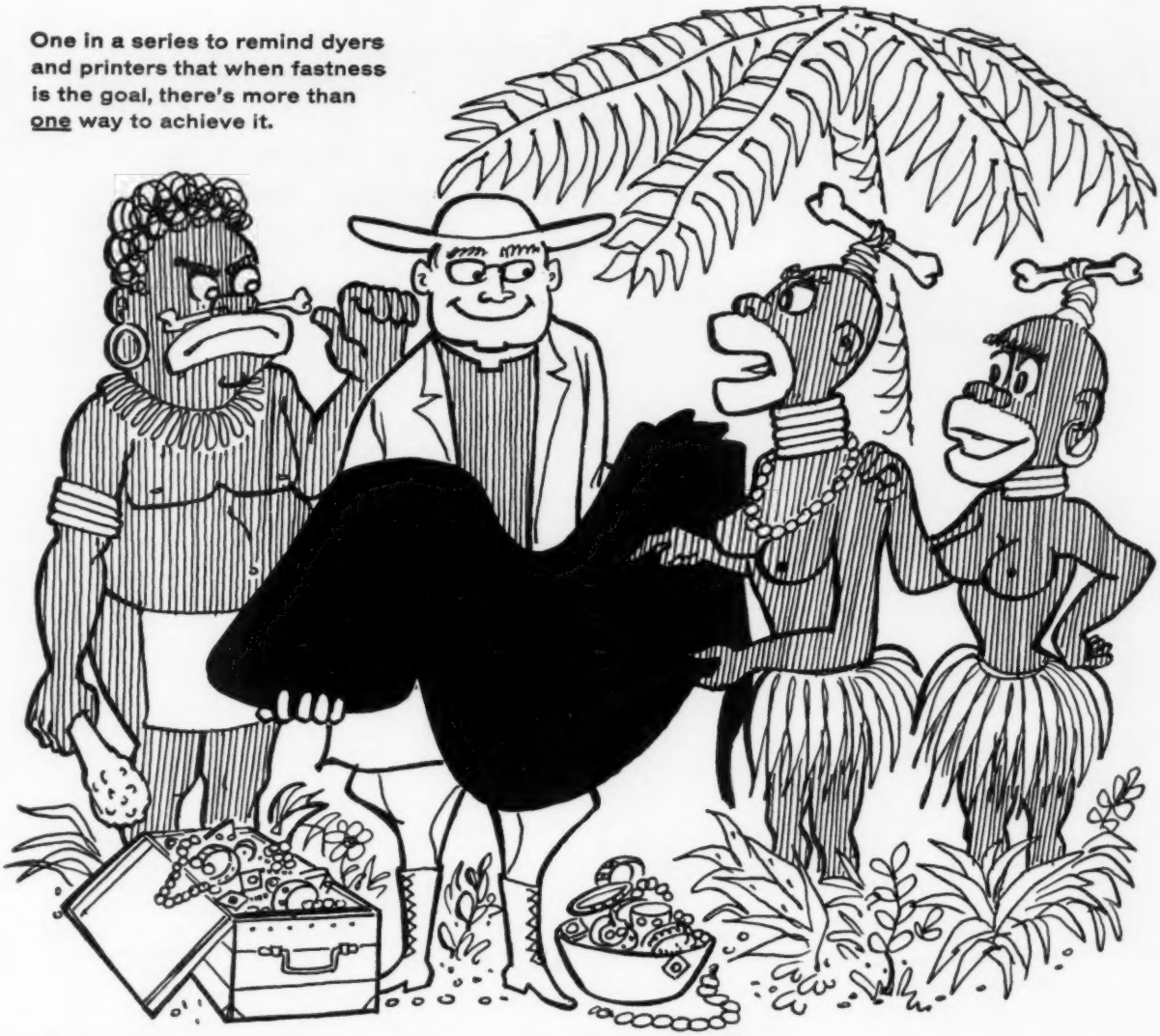
Sidney Blumenthal & Co., Inc., has announced the resignation of **Maurice S. Preville** from the company's board of directors and the election of **William Heller,** president of William Heller, Inc., as a director and as chairman of the executive committee.

The Textile Workers Union of America recently named **Emil Rieve** former president, to the resurrected post of executive council chairman. President is **William Pollock,** previously executive vice-president.

Buford Robbins, formerly with

(Continued on page 46)

One in a series to remind dyers and printers that when fastness is the goal, there's more than <u>one</u> way to achieve it.



"But, is the color fast?"

Nothing interests the lady more when it comes to fabric color. Make it fast and you make her happy...the class of dyes is up to you!

Here it's Azoene® Fast Violet B Salt or Base, coupled with Naphthol AS; the result, as bright, true and fast a violet as you could want! Fast Color Salts and Bases are often your *best* solution to a dyeing problem...one that strikes the ideal balance of economy, production efficiency and consumer satisfaction. Fast Colors may help you *lower costs* or *increase efficiency* while maintaining consumer fastness standards...or they may help you upgrade your line at relatively low cost.

Talk over your requirements with one of our representatives. Your next dyeing job may be better for it.

bu ALLIANCE

BLACKMAN-UHLER CO., SPARTANBURG, S. C.
ALLIANCE COLOR & CHEMICAL CO., NEWARK, N. J.
DIVISIONS OF THE ANDOVER COMPANY

STOCKS AT: CHATTANOOGA, TENN., GREENSBORO, N. C., CHARLOTTE, N. C., COLUMBUS, GA., PROVIDENCE, R. I.

ALVEY engineers are sharp-eyed when it comes to spotting situations where conveyors can save you money by eliminating *man*-handling. *And* . . . they are equally skilled in designing the proper installation to meet the need.

This combination: *seeing* the need and *solving* the problem, is the secret of ALVEY's outstanding success in engineering modern, money-saving in-plant transportation systems.

Every time you MANhandle a product, you add to its cost . . . *without* increasing the value.

So, for profit's sake . . . ***convey*** your products.

ALVEY

ALVEY CONVEYOR MANUFACTURING COMPANY
9306 Olive Street Road • St. Louis 24, Missouri
Branch Offices in Principal Cities

238

Personal NOTES
ABOUT MEN YOU KNOW

(Continued from page 44)

York (S. C.) Mills, has succeeded **E. D. Maynard,** retired, as superintendent of Chronicle Mills in Belmont, N. C.

Albert G. Myers, chairman of Textiles-Incorporated, Gastonia, N. C., was named "Man of the Year" by the North Carolina State College chapter of Phi Psi.

Cleo Noles was recently promoted from second hand at the Calumet plant to overseer of Valway carpet sewing at the Valway Plant of Callaway Mills Co., LaGrange, Ga.

J. V. Robers has been transferred from Hatch Mill Corp., Columbus, N. C., to become superintendent of the Deering, Milliken plant in Kingstree, S. C.

O. W. Roesing, general sales manager of the North Star Woolen Mill Co., Lima, Ohio, has been elected a vice-president in charge of sales, with headquarters in the New York offices.

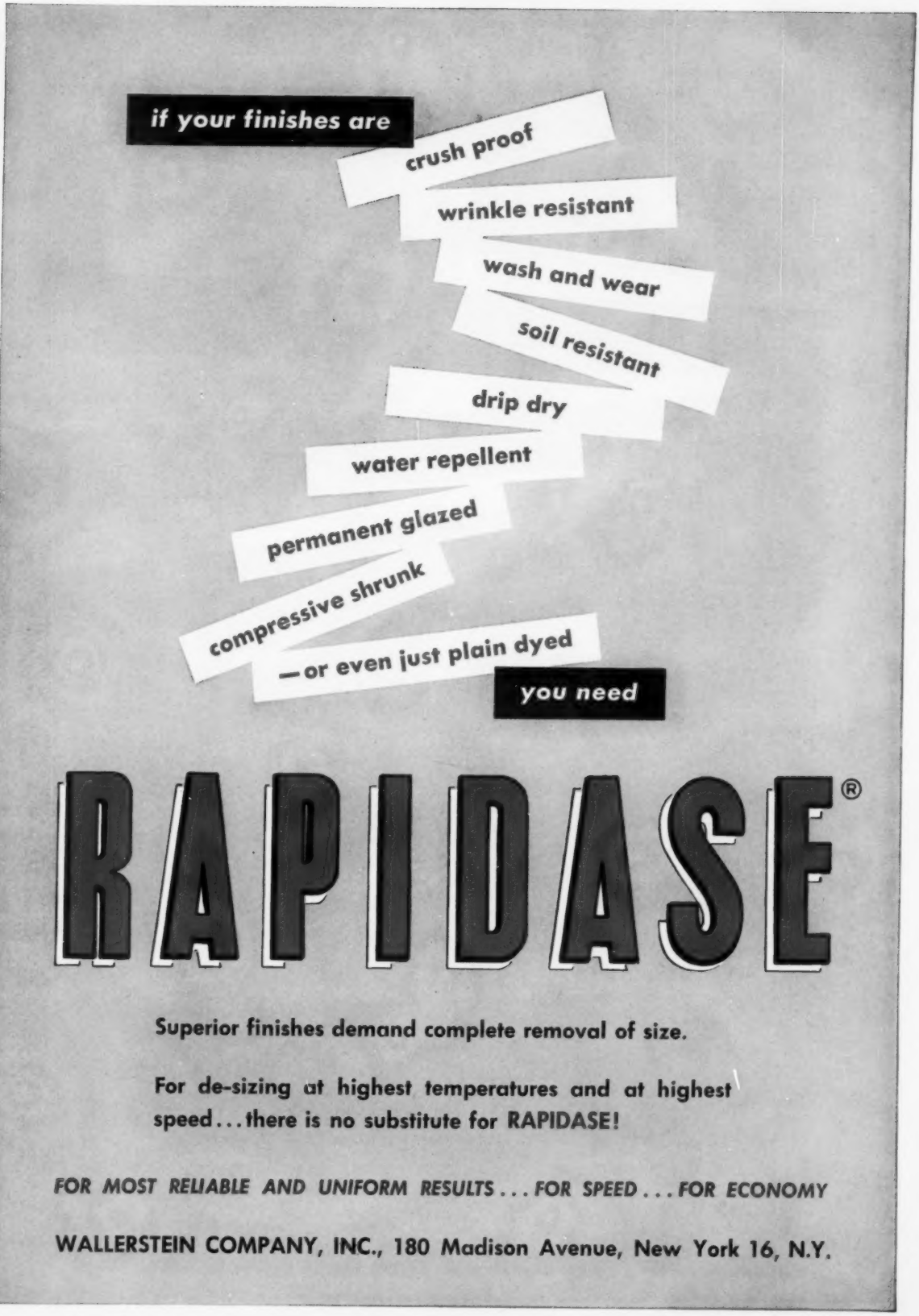
Phillip M. Russell has been named manager of the half hose division of Burlington Hosiery Co., Asheboro, N. C., replacing **Charles E. Crutchfield** who has resigned because of illness. Prior to joining Burlington, Mr. Russell had been with the sales division of Glen Raven (N. C.) Mills.

Russell Schafer, who was formerly with Galen Woolen Mills, Inc., Norwich, Conn., in charge of stock control, is now with Pachaug Mills in that same town in charge of quality control.

Portland (Ore.) Woolen Mills has elected to its board of directors **Frederick C. Schultze,** vice-president in charge of sales, and **Robert C. Pickens,** vice-president in charge of production.

Herbert L. Shuttleworth, president of Mohasco Industries, Amsterdam, New York, provided funds for the establishment of the Arthur W. Shuttleworth Memorial Library which was recently dedicated at Dartmouth College in Wilder Physics Laboratory. A working physics library for use as an instructional tool in undergraduate courses, the new

(Continued on page 54)


if your finishes are
crush proof
wrinkle resistant
wash and wear
soil resistant
drip dry
water repellent
permanent glazed
compressive shrunk
—or even just plain dyed
you need
RAPIDASE®
Superior finishes demand complete removal of size.
For de-sizing at highest temperatures and at highest speed... there is no substitute for RAPIDASE!
FOR MOST RELIABLE AND UNIFORM RESULTS... FOR SPEED... FOR ECONOMY
WALLERSTEIN COMPANY, INC., 180 Madison Avenue, New York 16, N.Y.

STOCK DYED
PIECE DYED
YARN DYED
Nylon Staple
TEXTURES
IRC

the new look in carpeting

THANKS TO NEW TWIST-SETTING TECHNIQUES DEVELOPED BY IRC FOR THE NEW NYLON STAPLE.

Fabrics made from IRC's New Nylon staple can be given textures *more permanent than any twist-type carpets now made from wool, cotton or rayon.*

New, permanent textures are now available... in all price brackets... woven or tufted... Saxony... hard twist... nubby... frieze... high and low pile... and all other types.

IRC combines in *one* fiber two characteristics of major importance to The New Look in Carpeting...

- Crimped and Set **for Bulk and Coverage**
- Can be Twist Set **for Permanent Style Effects**

Ask your resources to show you what they have in The New Look in Nylon containing IRC New Nylon fiber.

THE NEW Nylon Staple I·R·C

INDUSTRIAL RAYON CORPORATION

Sales Offices: 500 Fifth Ave., New York 36, N.Y. 627 Guilford Bldg., Greensboro, N. C.

THE BOX SETS THE STAGE...

Gaylord Boxes

. . . when you raise the curtain on a new product. A modern container dramatizes the features of your product. Yet, the cost of a fresh design for your box is just a small fraction of what you spend on product development.

Strikingly handsome printed effects are now made possible by Gaylord's newly-developed "Oyster White" boxboard. For samples and complete information, call your nearby Gaylord office.

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

Colorful

COTTON PRINTS

...every day!

GDC pioneered the popularity of inexpensive cotton piece goods—by introducing the Rapidogens® to the printing industry in 1932. These stabilized azoic dyes have been constantly developed—and today are still unsurpassed in range and quality.

RAPIDOGENS assure bright, bold shades and good fastness—to meet the increasing demands for colorful, washable cottons.

Our latest developments include Rapidogen Black I, Rapidogen Black 3GN Powder and Solution, Rapidogen Black BF Solution and Rapidogen Violet BN Solution.

You can have confidence in our complete line of Rapidogens, backed by years of manufacturing experience and application techniques. We invite you to call upon our Technical Department for current information and assistance.

From Research to Reality...

gdc gaf

GENERAL DYESTUFF COMPANY

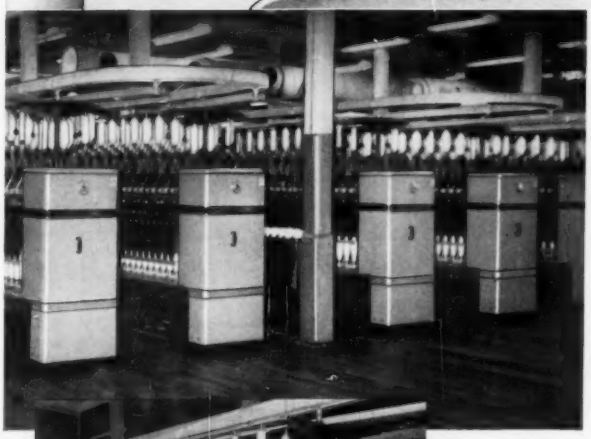
A SALES DIVISION OF

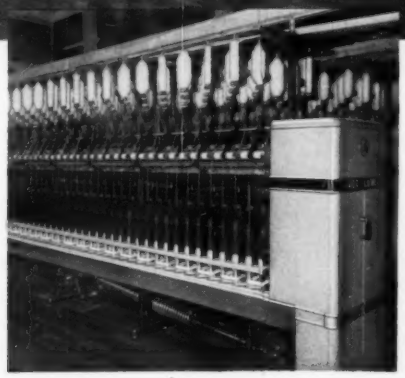
GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET • NEW YORK 14 • NEW YORK

BOSTON · CHARLOTTE · CHATTANOOGA · CHICAGO · LOS ANGELES · NEW YORK · PHILADELPHIA · PORTLAND, ORE. · PROVIDENCE · SAN FRANCISCO · IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

Spinning Room Efficiency INCREASED 22%
Winding Costs CUT OVER 2¢ per LB.
Coefficient of Variation DROPPED 2 POINTS





THIS GWALTNEY INSTALLATION of 7200 spindles produced these profit-making results in a knitting mill renowned for super quality.*

HERE ARE THE FACTS:

- Size of yarn — 28's super quality knitting.
- Size of rings — 3".
- Twist multiple — 3.00.
- Spindle speed — 8200 R.P.M.
- Front roll speed — 147 R.P.M.
- Traveler speed — 6440 ft. per min.
- Spinners assignment — 30 sides, 3600 spindles.
- Ends down per 1000 spindle hours — 13.2.
- Increase in breaking strength per skein — 16.89%.
- Weight of yarn on package — 12 oz.

The **only way** to achieve this type of performance consistently is with a Saco-Lowell Gwaltney Spinning Frame installation. Since 1953, over 450,000 spindles of Gwaltney, in 70 mills, have been installed and are setting new standards of production efficiency, quality, and profits in these mills.

Have a Saco-Lowell Sales Engineer study your operations and prepare a "Forecast of Savings" that will tell you what to expect from a Gwaltney Installation in your mill.

*Name on request.

SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE; and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

C. Russell Gill, B.S. Worcester Polytechnic Institute '31; Chemist and overseer Finishing Plant to 1934; Chemist and Technical Service Repr., Starch company, 1934-1937; Vice-President and Sales Manager, Southern Sizing Company, 1937, President, 1946.

BUT HE WORKS FOR YOU!

If you have a sizing problem in your mill, the logical thing to do is to get a sizing expert to solve it for you.

Put in a collect call to Southern Sizing Company or contact one of our representatives today! We have six men on our payroll whose job it is to help you make your mill run better. All are experienced engineers and all know weaving and slashing inside and out. One or more of these men is located near you.

We're the first to admit they aren't the prettiest guys in the business but we know they're the best when it comes to solving your sizing problems. Superior service and superior size are our two stocks-in-trade.

BOB JIMMIE ROBERT BERT WALTON

SSC Sizing and Service Salesmen left to right, Robert E. DeLapp, Jr., Jimmie D. Walker, Robert V. May, B. G. Stumberg, Jr., Walton Simmons.

SOUTHERN SIZING COMPANY

SUPERIOR SIZE, SUPERIOR SERVICE

East Point, Georgia

PHONE POPLAR 1-8871

SSC

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 48)

addition is named in memory of Mr. Shuttleworth's father.

Elwyn A. Thomsen has been named director of the cost and control department of the Bates Manufacturing Co., Lewiston, Maine, succeeding W. Harold Deplitch who has resigned.

Ferrell T. Towns, Pineview division cotton buyer, Callaway Mills Co., LaGrange, Ga., was elected chairman cotton buyers division of the Cotton Manufacturers Association of Georgia.

Secretary-treasurer **William O. Webster** was elected president of Klear-Knit, Inc. of Virginia, succeeding John B. Porterfield, who resigned.

Donald E. Marnon of American Aniline Products, Inc., was elected chairman of the New York Section AATCC. **John A. Komninos,** Waldrich Co., Delawanna, N. J., was made vice-chairman; **Richard Monsaert,** Puritan Piece Dye Works, Paterson, N. J., is new secretary, and **Richard E. Miller** of Eastman Chemical Products, Inc., is new treasurer.

Cone Mills Corp., Greensboro, N. C., recently renamed **Ceasar Cone** president and **Benjamin Cone** chairman of the board. **Lewis M. Heflin,** assistant treasurer and also president of the N. Y. sales organization, was elevated to a vice-presidency. **Harold W. Smith,** secretary and comptroller, was elected treasurer and will retain the comptroller position. **Lewis S. Morris** was elected secretary and **John Field,** of New York, assistant secretary.

Excelsior Mills, Union, S. C., announce the following appointments on the supervisory staff: **Jared L. Johnson** has been made overseer of dyeing; **Frank Floyd, Jr.,** chief chemist; **Osbert Hughes,** new head of the industrial engineering department, and **Robert T. Eubanks** has been promoted to head of the grey mill production department. Second hand **Ned E. Howell** has been made assistant overseer of the carding and spinning departments.

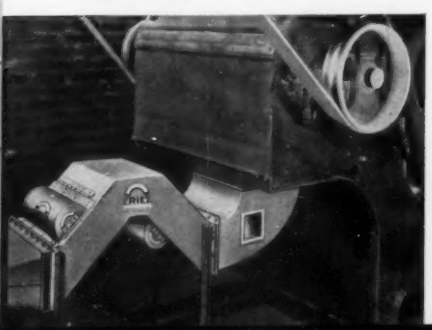
At J. P. Stevens synthetics division's new Carter Plant in Wallace,

(Continued on page 196)

OLD IRON PANTS AND THE MAGNET! A lady from yesterday with a metal-ribbed girdle wouldn't be safe next to an Eriez Magnet. She might easily be "hung-up" by the powerful Alnico V action. This idea of herculean power is practically applied in textile processing lines. Magnets remove dangerous tramp iron preventing fires, machinery damage and loss of production in cotton, woolen, rayon and waste mills. *All Eriez Magnets are non-electric, self-contained. They operate without any wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

MAGNETIC IDEAS FROM ERIEZ

TRAMP IRON CAN'T GET OVER THIS HUMP. Eriez Permanent Non-electric Magnetic Humps offer the ideal method of removing dangerous tramp iron from material conveyed in pneumatic lines. The patented Eriez Hump consists of 2 powerful plate magnets in an enclosed sheet-metal housing. The hump design changes the direction of the flowing material, creating a mixing or tumbling action. This directional change of the moving material allows the magnets to catch and hold spark-producing tramp iron. Eriez Magnetic Humps bear the Associated Factory Mutual Stamp of Approval for installation in textile mills, and are heartily endorsed by insurance companies as a means of reducing mill fires caused by tramp iron. Want more information? . . . request Bulletin 563.



ERIEZ HI-POWR MAGNETIC SEPARATORS

ERIEZ SPIKED-APRON MAGNET SPIKES METAL DAMAGE. Lawrence Garnet Co., Lawrence, Mass., produces garnet specialties of silk and worsted, white worsted and merino. As a precaution against tramp iron damage to the machines, Eriez Spiked-Apron Magnets were installed in the feeder boxes. This step proved highly successful, and the magnets removed large quantities of knitting needles, pieces of spindles, ring travellers, etc., from the processing lines. Previously, any metal such as this would put the machine out of use for days or even weeks, seriously curtailing production. So efficient were the magnets in preventing tramp iron damage, thus saving thousands of dollars, that when the company recently installed new machinery, it would not use it until Eriez Permanent Magnets had been added.

ERIEZ MAGNET IS WATCHDOG FOR THIS FLOCK. Cellusuede Products, Inc., Rockford, Ill., manufacturer of rayon, cotton and hair flock, protects its reputation and costly cutting knives with an Eriez Plate Magnet that pulls dangerous tramp iron from the raw material before it reaches the knife blades. The finished flock, used as a coating material for textiles, paper, metals, etc., and as a reinforcing material to strengthen rubber and plastic compositions, *must* be entirely free of metal contamination. Since installing the magnet, there has been no trace of stray metal, no damage to knives by tramp iron.

Eriez' free booklt "Magnetic Ideas" can help you. Send for it without obligation. ERIEZ MANUFACTURING COMPANY. 72G Magnet Drive, Erie, Pa. OR, on your specific request Eriez factory-trained field men backed by Eriez' laboratory and engineering know-how, will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas".

LOAD Slasher Creels the EASY Tramrail Way

It is so simple and fast to load beams into slasher creels with Cleveland Tramrail, it is no wonder that so many mills — large and small — are rapidly swinging over to this modern way of handling.

In jiffy time a heavy beam can be set into a creel with minimum loss of production from slasher shut-down. The same hoist that inches the beam carefully into position usually selects the beam out of storage. Thus delivery is direct and all time-consuming rehandling is eliminated.

Most likely, there are installations of Cleveland Tramrail near you, that you can visit and study. However, the most effective way of demonstrating its possibilities is to select a good test job in your own plant and put in an installation of Cleveland Tramrail. Then carefully study the equipment and make accurate record of the results. In this manner, you can determine first hand whether or not you can profit by its use.

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...make it EASY to IMPROVE textile sizing, printing, finishing...

OK SERVICE—Top flight textile research men working with the finest of modern laboratory facilities develop better textile starches for you . . . carefully control formulae uniformity. A fleet of Hubinger planes bring OK field laboratories and expert textile technicians right to your door . . . and fast.

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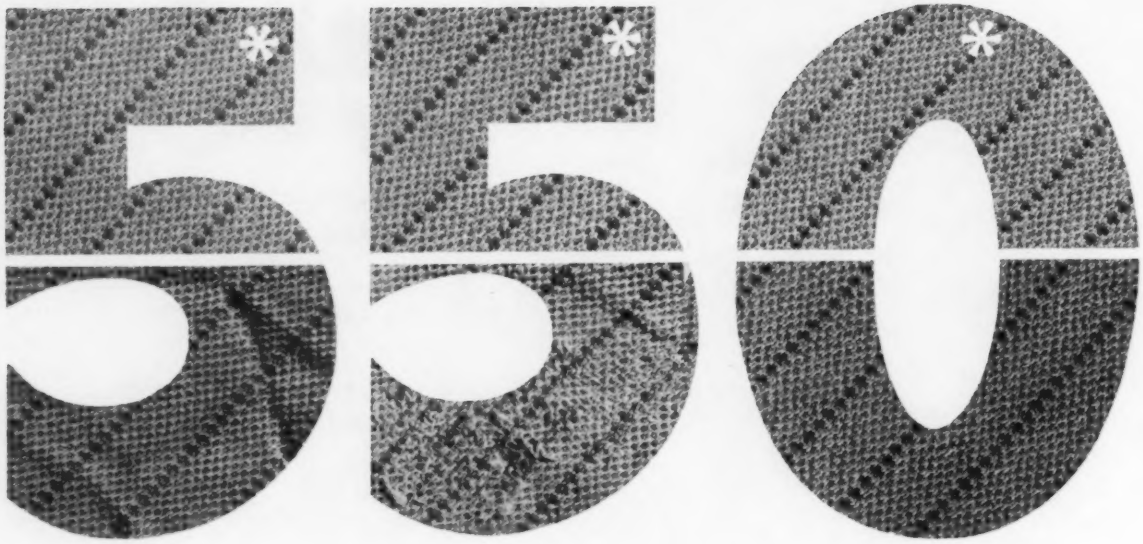

THE WICA REACTANT RESIN!

FIVE

Hangs-out five times better than untreated fabric . . . all for less than a fifth of the cost of lost buyers when the market demands full blown-up feel of reactant resin results.

FIVE

"Formidable" resistance is offered to surface abrasion . . . tensile strength, resiliency and hand is substantially increased . . . vitality of fabric is dramatically improved . . . each fibre is reinforced with penetration of WICA reactant resin 550 throughout.

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Dyed shades are effected negligibly . . . nothing impedes fabric's breathing with WICA resin 550 . . . voided orders are unheard of with alive, easy handling fabric treated with WICA reactant resin 550.

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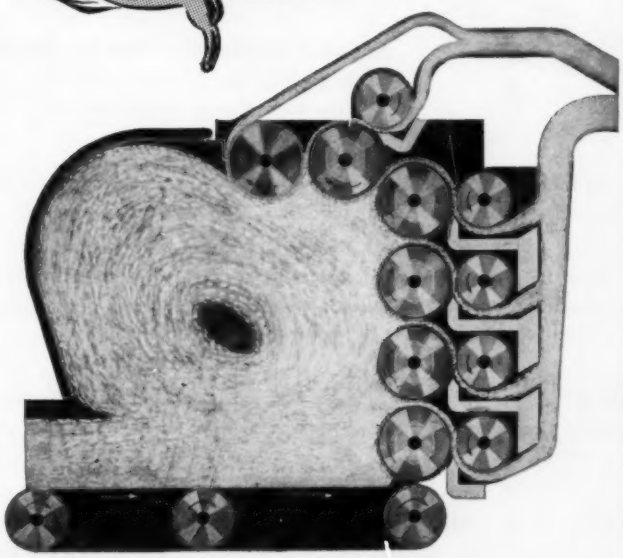
We will treat a sample of your fabrics on request.

Continental's SRRL FIBRE OPENER

SAVES SPINNABLE FIBRE
PRODUCES BETTER YARNS
IMPROVES PROCESSING

This revolutionary new type cotton opening machine was developed by the Southern Regional Research Laboratory and first manufactured commercially by Continental. Its prime function is to open and fluff cotton. Laboratory tests and mill experience have shown it does this at high capacity without damage to the fibre. While designed primarily to facilitate cleaning machine-harvested cotton through better opening, it is an excellent blender. This makes it also valuable for high grade cotton. Initial cost and operation are both low.

We invite you to write for Bulletin 208 which gives complete description



SECTIONAL VIEW

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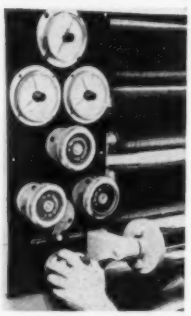
COCKER *Proudly Presents*

the **MONFORTS**

High Production RZ NAPPER

This Napper is one of the fine machines in the Monforts line of Cloth Finishing Machines—now sold and serviced by Cocker. Below are some of its outstanding features:

Highest Production can be obtained and maintained—Cloth speed and napping effect are synchronized and napping effect is automatically maintained when cloth speed is changed.



Accurate Control—Infinitely variable settings can be quickly and easily made and can be checked on indicators. Can be operated at **any** cloth speed from 8 to 50 yds/min.

Quick Servicing—All napping rolls are **gear driven** and each can be removed in two minutes for grinding. This leaves journals, bearings, and gears undisturbed **in the machine** thus eliminating the possibility of damage to delicate parts.

Dust Proof—All gearing and drives are separated from the napping area and are completely protected against dust. Let us give you full information on this outstanding Model RZ Napper.

Other Monforts Machines:

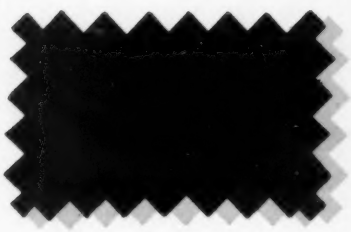
- **Shearing and Cropping Machines** • **2 and 4 Roll Padders for Moisture Extraction, Impregnating, and Dyeing**
- **Tenter Frames** • **Tensionless Baking, Curing, and Drying Machines**
- **High Production Single and Double Shearers** • **Rotary Presses**
- **All Types of Cloth Room Machines for Measuring, Doubling, Rolling, and Folding**

THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

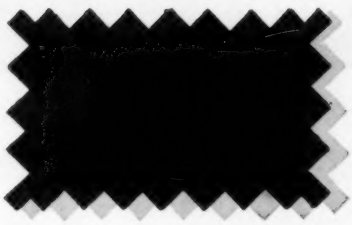
Monforts is represented in Northeastern States by:
Texplant Corporation, Stamford, Conn.

Now from National three widely useful stabilized diazonium salts



NATIONAL® BLUE 3BVS SALT

Produces reddish-blue shades when coupled with National Naphthols AS-OL, AS-BG, AS-RO, AS-BO and AS-BR; greenish-blue with other naphthols except AS-G which yields a dull orange shade. Full properties and application data are given in our Bulletin 431, available from our nearest office.



NATIONAL BLACK K SALT

Couples with National Naphthols AS-BG, AS-BS and AS-SW to produce a jet black. Yields reddish-black when coupled with other naphthols. Ask our nearest branch office for our shade card (Bulletin #430) giving complete data on properties and procedures for package dyeing, naphtholating and printing.

NATIONAL BLUE 2BS SALT

This salt produces greenish-blue shades when coupled with National Naphthols AS-D, AS-TR Disp. and AS-E; reddish-blue shades with other naphthols except AS-G Disp. which yields a bright yellow. For properties, naphtholating and developing procedures, get our shade card (Bulletin #440) from our branch office nearest you.

Coupled with various National Naphthols these National stabilized diazonium salts all possess very good-to-excellent fastness to light, washing, soda boil and other wet processing. They are applicable by all the dyeing and printing processes generally employed for dyes of this type. Many combinations can be discharged to excellent whites with hydrosulfite discharge pastes.

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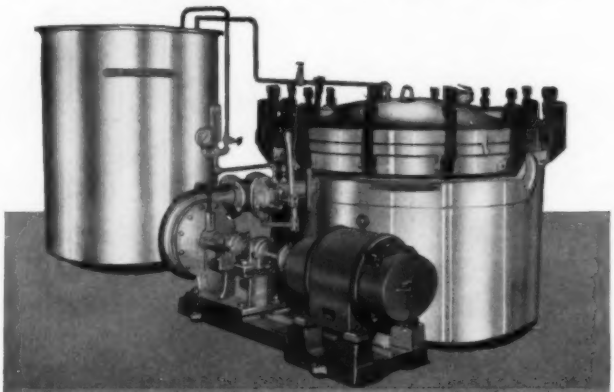
MORTON SYSTEM STOCK DYEING AND BLEACHING MACHINERY

MORTON SYSTEM STOCK DYEING MACHINES - MORTON MACHINE WORKS, COLUMBUS, GA.

With a MORTON SYSTEM for synthetic and natural fibers you are completely assured of stock dyeing and bleaching at its best — if you insist on the MORTON SYSTEM.

MORTON SYSTEM Machines are Automatically Controlled — Require Minimum Labor—Produce Outstanding Results.

Morton System double circulating stock dyeing and bleaching machines are designed to operate at normal temperatures or at elevated temperatures. The same machine can be used for both types of dyeing.


MORTON SYSTEM STOCK DYEING MACHINE - MORTON MACHINE WORKS, COLUMBUS, GA.

Manufactured by:

MORTON MACHINE WORKS, Inc.

COLUMBUS, GEORGIA, U. S. A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:

BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES — PUMPS — BEAM AND PACKAGE EXTRACTORS AND DRYERS — DYE BEAMS, ALL MAKES AND DESIGNS — DYE TUBES — DYE SPINDLES — TUBE SPACERS — CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS.

News IN BRIEF

Little Time for Profits. The average manufacturing company spends most of the working day paying off the cost of doing business, and only about 19 minutes are left for earning profits, ac-

cording to the National Association of Manufacturers. Further, only about half of this time results in dividends for the owners; the rest is used for reinvestment in the business. NAM drew up the following schedule of apportionment of the average working day:

Materials and supplies	3 hr 55 min
Wages and salaries	2 hr 19 min
Taxes	43¼ min
Repair and replacement	29 min
Research and promotion	14½ min
Profits	19¼ min

Textile Union Rebuffs Dixie. The Textile Workers Union at its recent convention adopted a resolution denouncing the White Citizens Councils which have been formed in most southern states since the Supreme Court decision outlawing segregation. Although southern delegates walked out of the convention in a body, leaders said that they will stay in the union.

Japan Pledges Continuation of Quotas. Japan has informed the State Department that voluntary quotas on cotton fabrics and blouses will be continued in 1957. If in the future it is decided to abandon or modify the quotas, the Japanese promise that at least three months notice will be given. Current Japanese self-imposed annual quotas are 150 million square yards of cotton cloth, including 20 million square yards of print cloth and 5 million square yards of velveteen, and 2½ million dozen cotton blouses. [See comments by F. E. Grier, president of the American Cotton Manufacturers Institute, on p. 67 of this issue of TI.]

CMA Asks Wool Mills to Guarantee Cloth. The Clothing Manufacturers Association of the U. S. has asked the National Association of Wool Manufacturers to agree to a proposed new standard sales contract which would require the mills to assume greater responsibility for the performance of their fabrics. The proposed contract contains a clause which states that "Seller warrants that the fabrics .... are satisfactory for such clothing." First reaction of wool men was that the word "satisfactory" is

Import Quota on Textiles—Export Quota on Money

The Underwear Institute met recently in New York, and as it is at most gatherings of textile men these days, the threat of imports from Japan and other low-wage countries was a chief topic of discussion. Roy A. Cheney, president of the Institute, had this to say about what his section of the industry faces from foreign competition:

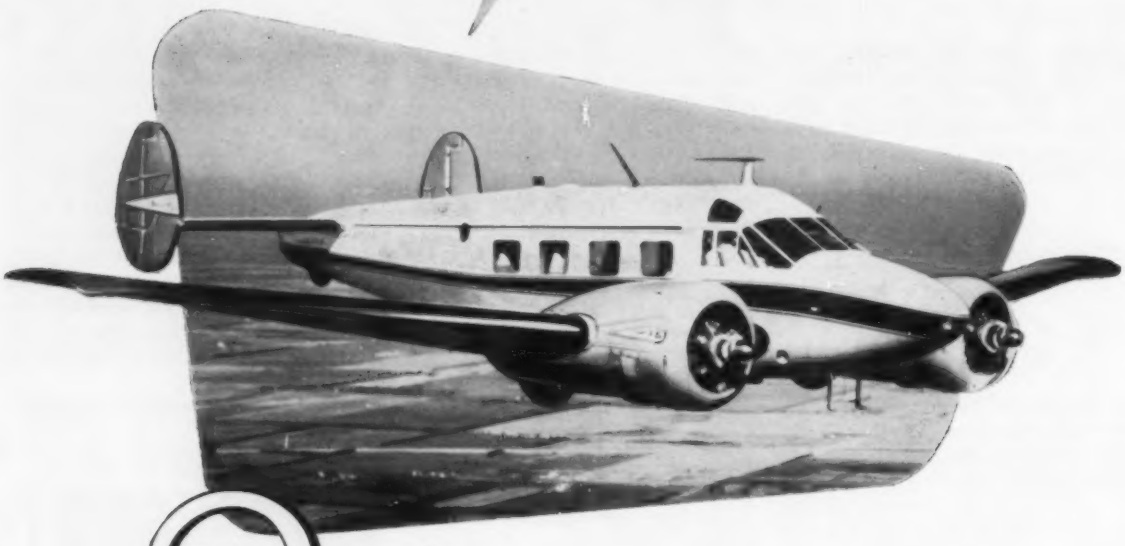
"There is one deep and deadly thing facing . . . the textile industry . . . and that is the threat of foreign competition and particularly the threat of Japanese imports. It may interest you to know that the imports of knitted underwear including T-shirts from Japan in the year 1955 were five times what they were in the year 1954. This cannot go on forever and it will begin to make itself felt more and more, and as it grows our smaller mills will begin to feel the impact and they should interest themselves very actively in the fight to stop this sort of thing. . . .

"I would recommend . . . that among others the State Department and the Department of Commerce cease spending our dollars to aid foreigners and begin spending some of that money for our own benefit. . . .

Mr. Cheney

"I would . . . like to see you talk to your employees about this because sooner or later you are going to have to begin to let them go and they ought to know whose fault it is. They ought to write to their Congressmen and you ought to write to your Congressmen, including your Senators, telling them what the story is and asking them to vote to help you rather than vote to help Japan and the foreigners."

Executives travel in... COMFORT and PRIVACY



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airfleet of the textile industry

"Modest Optimism" in Wool Textile Industry

"There appears to be ground for at least modest optimism in the wool textile industry. Available statistics indicate activity so far this year is somewhat ahead of, certainly equal to, the comparable period of 1955. . . . Figures collected by the Association indicate sales of worsted knitting yarns also are higher than a year ago, and it appears conditions in the wool blanket field are somewhat improved.

"Our moderate optimism, however, is tempered by two factors. Profit margins are generally inadequate and at the same time wages are moving upward. The second factor is imports. In 1955 imports of cloth reached a record high of about 20 million linear yards and the rate this year appears to be even higher than in 1955. . . .

"We believe that wool textile imports are threatening security and that there is grave doubt the industry could meet mobilization needs. We repeat our warning that unless imports are curbed, the threat to security will rise.

Mr. Nilsen

"We seek a tariff or other means of equalizing the vast wage gap between U. S. and foreign plants so that we can compete on at least fairly even terms with foreign mills in the American market."—*T. B. Nilsen* of Clinton (Mich.) Woolen Mfg. Co., newly elected president of the National Association of Wool Manufacturers during the Association's recent annual meeting.

much too broad. CMA spokesmen state that the new contract is requested because of the entry of blends into the men's wear picture; many mills producing these fabrics are not familiar with the commonly accepted sales terms used in the men's wear field, and cutters have registered numerous complaints of inferior performance for which the mills disclaim responsibility.

NE Rayon Weaving Situation Serious. The New England rayon weaving industry is currently in a serious situation, with production at most mills drastically curtailed and prospects that a number of

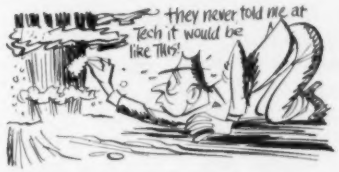
mills will be forced out of business. Japanese imports are listed by industry leaders as the number one cause of the slump, compounded by a sharp drop in demand for rayon fabrics, high inventories, and inability to spread a steady overhead over a decreased output. Southern competition is not believed to be a significant factor, and few mills are considering a move South.

New Wool Splash Yarn Displayed. Representatives from Wyandotte Worsted Mills, Pittsfield, Mass., displayed samples of a splash yarn with an untwisted core and a fine yarn binder at a recent National Association of Woolen and Worsted Overseers meet. Other spinners present were unable to conceive of how such a yarn could be made, but the mill would not disclose any details other than to say that the method eliminated six steps in production and greatly reduced costs.

QMA to Explain "Single Manager" Plan. Discussions of the new "Single Manager" plan whereby the Army will procure all clothing and textiles for the Department of Defense will highlight the annual meeting of the Quartermaster Association, to be held at Washington's Mayflower Hotel, October 11 and 12.

News in Brief

MIT to Study Effect of Atomic Radiation on Cotton. The Agricultural Research Service of the U. S. Department of Agriculture has signed a $21,632 contract with Massachusetts Institute of Tech-



nology, which will enable MIT researchers to study the possibility of modifying cotton by atomic radiation, and the use of irradiation to catalyze chemical reactions with the cotton fiber.

Miss. Votes Factor's Lien Law. Mississippi is the 25th state to pass a Factor's Lien Law, designed to eliminate the red tape involved in manufacturers securing loans from factors.

KAE Next Year. The 43rd Knitting Arts Exhibition will be held in Convention Hall, Atlantic City, N. J., from April 29 to May 3, 1957.

He'll Sit Out the Next Rubber. The manager of the Dalton, Ga., plant of General Latex Co. fell head first into a seven-foot tank of latex the other morning, and re-

mained there until employees found him 25 minutes later. After 24 hours in the hospital, nurses were still scrubbing him in an attempt to clean off the dried rubber, originally intended for bind-

ing the tufts of tufted carpets.

Cotton, Cotton, and More Cotton. The U. S. Department of Agriculture has announced that as of March 31 the investment of the Commodity Credit Corp. in price-supported commodities amounted to more than $8.7 billion, including outstanding loans and inventories, compared to about $7 billion last July 31. Included in the figure are loans on upland cotton amounting to $1.0 billion, an inventory of 6,800,429 bales of upland cotton with a cost value of $1.25 billion, an inventory of 74,104 bales of extra long staple cotton with a value of $27 million, and an inventory of 121,809,052 pounds of wool with a value of $60 million. [Previous report: TEXTILE INDUSTRIES for December, 1955, pp. 77 and 79.]

Textile Old Timers Honored. June 11th was Old Timers Day in Charlotte, N. C., when the pioneer leaders of the Carolina textile industry who are still active after 50

years of service in the industry were honored at a luncheon sponsored by the Greater Charlotte Textile Club.

Perkin Centennial Notes. The Perkin Centennial, commemorating the one hundredth anniversary of the discovery of aniline dyes, will be held at the Waldorf-Astoria, New York, September 10-15. Theme of the technical sessions and exhibits will be "A More Colorful World." The American Association of Textile Chemists and Colorists, sponsors of the Centennial celebration, will hold its annual convention during the last three days of the week, September 13-15, and the first three days of the program will also include a number of papers of interest to the textile wet processing industry.

ASME LIKES IKE. President Eisenhower accepted honorary membership in the American Society of Mechanical Engineers recently, and was presented with his membership certificate in the White House ceremony shown above. Second from left is **Eugene W. O'Brien**, past-president of ASME and vice-president of W. R. C. Smith Publishing Co., publishers of TEXTILE INDUSTRIES.

India Turns Back Clock on Textiles. India has apparently turned its back on the Industrial Revolution in an attempt to check its chronic massive unemployment. Handicrafts are encouraged at the expense of mechanization. Weaving mills are not allowed to increase their number of looms, and rarely can get permission to convert ordinary looms to automatic looms. Handloom weaving is encouraged by imposing restrictions on the number of dhotis and saris

(Indian garments) which can be made of power-loom woven materials. Mill-woven cloth is subject to heavy taxation and handloom products are not, and hand spinning is being encouraged.

Tribute to America's Textile Schools. "The fact that the American textile industry today produces more goods per man hour than that of any other country is a concrete example of the type of management the textile schools of this country have been furnishing the textile industry.

"The graduates of these schools have not only made the textile industry what it is today, but they have been equally helpful to the machinery industry not only in their research and development departments, but also in the merchandising of their product."—*W. Frank Lowell*, president, American Textile Machinery Association and vice-president of Saco-Lowell Shops, during Textile Education And Machinery Day Ceremonies on May 10.

Japanese Labeling Law for Alabama. Alabama has joined South Carolina in enacting legislation requiring that retailers who handle Japanese goods post signs in their stores informing the public of the fact. Textile leaders in the state

are pleased, of course, feeling that the law will serve its purpose in highlighting the industry's plight,

even if it is knocked down by the courts, as many retailers and constitutional lawyers feel it will be. In reluctantly signing the bill, Alabama's Governor Folsom expressed regret that this bill is "aimed against free world-wide trade."

Slater Mill Not First? Claims that the Old Slater Mill in Pawtucket, R. I., was the first cotton mill in America are disputed by the Chamber of Commerce of Beverly, Mass. Documented proof is offered that the Beverly Cotton Manufactory began operations in 1787, and that the mill was visited by George Washington in 1789, as attested by an entry in his diary. The Slater Mill was built in 1793.

Avisco Announces a New Fiber. American Viscose Corp. has announced a new textile filament (as yet unnamed) which develops a permanent crimp when wet with water. The fiber is now going into commercial production. Other developments being pushed in Avisco's Research and Development Division include a superstrength tire cord, solution dyed carpet rayon staple, high wet strength rayon, and new colors for solution dyed acetate.

More Sheep Than Ever. The sheep population of the world hit

a new high in 1955 for the ninth consecutive year, according to the Foreign Agricultural Service. Total number of sheep was estimated at 910 million, up 2 per cent over 1954, and 26 per cent above the 1946-1950 average. All continents except North America registered increases.

Jute Tariffs Are Inconsistent. American mills buying imported jute yarns for weaving carpet backing fabrics are required to pay 4½¢ duty on each pound of yarn of size 10½ and up; on sizes from No. 10 down, 5¢ per pound. Yet jute fabric woven abroad may be landed in this country at ½¢ per pound duty.

Home Town Slaps TTMA. Dalton, Ga., has confirmed its indifference

Will Our Textile Production Be Decided in Tokyo?

Japan's export quota on shipments of fabrics and clothing to the United States, given official sanction by the State Department, is full of loopholes, subject to change at any time, and a continuing menace to the future of textile manufacturing and raw cotton production in this country.

These criticisms are emphasized by F. E. Grier of Greenwood, S. C., president of the American Cotton Manufacturers Institute:

"Careful analysis of notes exchanged between the governments of Japan and the United States on cotton textile exports [see p. 63, this issue of TI] reveals that they in no sense constitute a negotiated agreement reflecting the views of all interested parties. The views of the U. S. textile and apparel industries have been completely disregarded.

"The notes in fact represent only a polite repetition of the previously announced intentions of the Japanese. The Japanese government is assigned the role of implementing the decisions of the Japanese industry and the U. S. government is given the role of message carrier. It assigns to the U. S. industry no role at all except, by implication, that of supplying whatever portion of the

Mr. Grier

American market the Japanese industry restrains itself from acquiring.

"Without active participation by the U. S. government through its customs officials at points of entry, there is no way in which imports of textiles and apparel from Japan through third countries can be controlled. It cannot be done by Japanese government or industry, given the best intentions in the world. For example, once a shipment of cloth or blouses clears Osaka for Hong Kong, it can be easily and quickly diverted to New York, or after arrival at Hong Kong, it can be reshipped to New York.

"The Japanese voluntary export quota for 1956 covers no article of apparel except cotton blouses. The vast range of cotton products can be shipped directly from Japan to the U. S. in unlimited quantities without the bother of transshipment.

"Deprived by the U. S. government of U. S. industry advice, the Japanese cannot design a quota which is fair to all segments of the American industry. Of their announced 1956 cotton cloth quota of 150 million square yards, indications are that the Japanese are planning that about one-half of the total be ginghams. This concentration on gingham is already causing chaos in the U. S. market as mills producing gingham see the Japanese shipments rise from 3% of the U. S. market in 1954 to over 40% of the current market.

"One of the most damaging aspects of the import problem facing U. S. textile and apparel manufacturers today is the continuing uncertainty as to long-run levels of imports, with the Japanese industry reserving the right to change their export levels on three months notice."

News about

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APPLICATIONS
FOR BETTER QUALITY
WARP SIZE . . . permanent abrasion resistance for cotton, rayon, denim
AFTERTREATMENT . . . reduced crock, improved wear life
DYE BATH . . . more uniform colors
STARCH BLEND . . . improved rayon seam strength
RESIN BLEND . . . greater crease resistance in cotton, rayon
BONDING MATERIAL . . . for non-woven fabrics, screen printing inks

Tests prove Hycar-sized fabrics 3½ times more durable

HYCAR Latex is a dispersion designed to improve textile quality in many ways. Take abrasion resistance. In a typical test comparing flex abrasion of untreated cotton sheeting with sheeting treated with Hycar 1562 Latex, the untreated material failed at 4000 cycles. The Hycar-treated material lasted to 14,000 cycles.

The use of Hycar latices offers many advantages: permanent wear resistance, soft hand and drape, high strength and excellent bonding qualities.

Hycar latex can help you improve quality in many processes, with many fabrics. For new booklet listing applications and benefits write Dept. ET-4, B. F. Goodrich Chemical Company, Rose Bldg., Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

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Hycar
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American Latex

B.F.Goodrich GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

Canadian Textiles—Same Story, Different Villain

The fate of the Canadian textile industry, like that of the United States, lies partly in the hands of forces outside the country, M. W. Mackenzie, president of Canadian Chemical & Cellulose Co. Ltd., emphasized in a recent address to the Silk and Rayon Institute. But part of the Canadian industry's problem is closer to home than Japan:

"No matter what steps the industry can take to help itself there remains the problem of regulating the disposal by the U. S. and other countries of their surplus production in our market."

In addition to dumping, Mr. Mackenzie quoted several other causes frequently advanced for the textile industry's difficulties: inadequate tariffs, outdated customs classifications, volume of tourist purchases, wrong duty valuations, and faults within the industry itself.

Mr. Mackenzie

As a step toward a remedy, he suggests an unbiased and objective analysis of the industry's ills; this may come out of current Canadian Government studies, but if not, it should be made by the industry on its own.

News in Brief

to good relations with the Tufted Textile Manufacturers Association —the mayor and city council voted unanimously to zone residential the area in which TTMA planned to erect its headquarters building. Residents of the area had previously objected when TTMA bought a permit to build, after plans were ready and construction about to start. [See TEXTILE INDUSTRIES for June, p. 176, for a discussion of the bad feeling between TTMA and Dalton townsfolk.]

Rug Cleaners Move. The National Institute of Rug Cleaning has moved from Silver Spring, Md., to larger quarters on the second floor of a new building at 7355 Wisconsin Ave., Bethesda 14, Md., in suburban Washington. NIRC will maintain its pilot rug cleaning plant at the National Institute of Drycleaning at Silver Spring.

Nearly One-Quarter of Cotton Mechanically Harvested. Figures just released by the U. S. Department of Agriculture show that 17 per cent of the 1955 cotton crop was machine picked, and 6 per cent was machine stripped. Hand picking accounted for 54 per cent of the crop, and 23 per cent was hand snapped. About two-thirds of the California crop was machine picked, as was 39 per cent of the Arizona crop.

ATMA Scholarship at Lowell Tech. Lowell Technological Institute has established a scholarship for the coming academic year in honor of the American Textile Machinery Association.

ACMI Convention Dates. The 1957 convention of the American Cotton Manufacturers Institute will be held at the Palm Beach Biltmore, Palm Beach, Fla., April 4-6. ACMI will meet in 1958 at the Hollywood Beach Hotel, Hollywood, Fla., April 10-12.

QM Criticizes Stretch Socks. A spokesman for Quartermaster Corps research and development recently told a House subcommittee that nylon stretch socks are not sufficiently comfortable for soldiers' feet, because they do not absorb perspiration as do cotton and wool socks. Another criticism made was that stretch socks are uncomfortable because of foot constriction when they are worn by a person whose feet are in the upper limit of the size range.

News from N. C. State. The School of Textiles, N. C. State College, will ask the next session of the General Assembly to appropriate $453,600 for a research building and $204,750 for equipment. The School's Research Department is at present housed in the Textile School building. . . . The Research Department has established a technical service office at the N. C. Vocational Textile School in Belmont, to make the results of the Department's work more readily available to North Carolina mills.

Standfast Molten Metal Process for Yarn. The Standfast molten metal dyeing process, introduced for piece goods several years ago, has been adapted for dyeing ball warps, and is in commercial use in the plant of Standfast Dyers and Printers, Ltd., Lancaster, England. Preheated yarns are fed to the machine; they pick up the leuco vat dyestuff floating on the surface of the molten metal, pass through the metal, and then pass successively through a salt bath, oxidizing bath, rinse, soaping, rinse, and plaiting, in one continuous pass through the range.

No Paper Undies for GI's. The Army Quartermaster Corps has ruled out, at least for the time being, the possibility that the armed forces will be using disposable

paper clothing in certain applications [see TEXTILE INDUSTRIES for June, 1956, p. 89]. QM has looked over several items of apparel made of paper, but does not even plan to test any of them within the foreseeable future.

Exchanges May Permit Delivery of Foreign Cotton. The New York and New Orleans Cotton Ex-

Using Salt Efficiently

by **INTERNATIONAL SALT COMPANY, INC.**—America's largest producer of salt

How to Find the Strength of Salt Brines—Accurately

In most of today's plants, the type of hydrometer called a Salometer can generally be used to measure the strength of salt brines most accurately. This device (similar in principle to the hydrometer which checks the condition of your car's battery) is convenient to use—and its scale permits fast calculations for a variety of plant needs. The Salometer scale reads from 0° in pure water to 100° in saturated brine, with each degree representing a percentage of fully saturated brine.

Using the Salometer with maximum accuracy, however, isn't just a matter of reading the scale. A number of simple precautions must also be taken to make sure the Salometer records correct brine strength. Here they are:

1. Check the temperature of the brine. Since most Salometers are calibrated for reading at 60° F., brine temperature should be kept at this level during testing. When other brine temperatures are encountered, it is necessary to use the following table of simple correction factors. These will help provide a completely accurate measurement of brine strength.

APPROXIMATE CORRECTION IN SALOMETER DEGREES

Observed Salometer reading	Subtract per degree below 60° F.	Add per degree above 60° F.
0 to 10	0.049	0.060
11 to 20	0.064	0.082
21 to 30	0.077	0.094
31 to 40	0.087	0.103
41 to 50	0.095	0.112
51 to 60	0.102	0.118
61 to 70	0.107	0.123
71 to 80	0.112	0.128
81 to 90	0.116	0.131
91 to 100	0.120	0.134

For measuring cold brines, such as those used in meat-packing plants, special 38° F. Salometers may be used. Special temperature-correction factors are available when using this type of Salometer to test brines above or below 38° F.

2. Brine should be tested only in a straight-walled cylinder made of clear glass—set on a level surface. Any moisture that collects on the outside of the cylinder should be wiped off before testing procedures start.

3. Salometer stem must be thoroughly dry, clean, and free from grease or caked salt crystals. Also, the Salometer should not touch the sides of the cylinder when readings are taken. It should be read with the stem in a vertical position.

4. Check new Salometers by placing them first in clear water; reading should be 0° S. Then empty the cylinder, rinse with a saturated salt solution, and refill with fully saturated brine; reading should be 100° S. Both water and brine should be at 60° F.

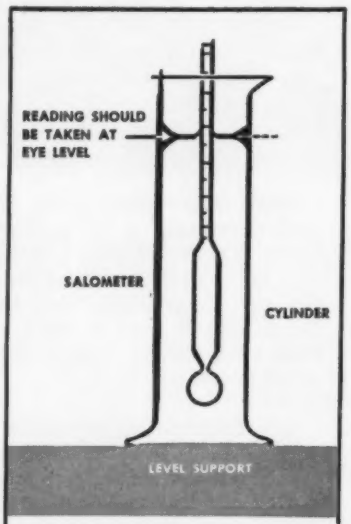

Illustration showing the proper eye level for reading a free-floating Salometer in a straight-walled glass cylinder.

5. Correct reading technique. Brine tends to rise along the sides of a glass cylinder, forming a concave surface known as a meniscus. For correct reading, the eye should be brought to a point level with the *bottom* of this meniscus. Errors of two or three degrees are possible if reading is taken at the point where the brine has risen along the sides of the cylinder.

Special Salometers. In the canning industry, where brine is used for quality grading, a different type of Salometer is often used. It's graduated on a scale where 100° S. represents brine containing 25% salt, instead of the normal 26.395%. Special hydrometers may also be used in the tanning or chemical industries. But the same procedures outlined here must always be followed when brine is to be tested—no matter what type of hydrometer a plant uses.

TECHNICAL SERVICE WITH YOUR SALT

Through skilled and experienced "Salt Specialists," International can help you get greater efficiency and economy from the salt or brine you use. International produces both Sterling Evaporated and Sterling Rock Salt in all types and sizes. And we also make automatic dissolvers in metal or plastic for both kinds of salt. So we can recommend the type and size of salt most perfectly suited to your needs.

If you'd like help on any problem concerning salt or brine—or further information on testing brine strength—contact your nearest International sales office.

International Salt Co., Scranton, Pa.
Sales Offices: Atlanta, Ga.; Chicago, Ill.; New Orleans, La.; Baltimore, Md.; Boston, Mass.; Detroit, Mich.; St. Louis, Mo.; Newark, N. J.; Buffalo, N. Y.; New York, N. Y.; Cincinnati, Ohio; Cleveland, Ohio; Philadelphia, Pa.; Pittsburgh, Pa.; Richmond, Va.

FOR INDUSTRY, FARM, AND THE HOME—
STERLING SALT
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The Change Will Be Hard—Cushman

In his remarks directed to those attending the panel discussion on "automation and the textile industry" which was held in May at Lowell (Mass.) Technological Institute on TEAM (Textile Education And Machinery) Day, Robert M. Cushman, vice-president for manufacturing, Amerotron Corp., gave this warning to textile mill executives:

"Automation can strongly affect the type and caliber of management personnel needed to realize the effect of automation on merchandising and sales, and also the general attitude and philosophy of automation. It is naturally assumed that many of our present philosophies on merchandising and sales will be changed as a result of automation and that many textile executives will fall by the wayside, inasmuch as they will not be able to accept new ideas. The change from the old to the new will be hard."

Mr. Cushman

For more of Mr. Cushman's opinions regarding automation, turn to page 110.

News in Brief

changes are considering the establishment of a "Hemisphere Contract," which would permit the delivery of cotton other than that grown in the U. S. The two exchanges feel that the present agricultural policies of the Government have removed the relationship between futures markets and the world price of cotton.

Conference on Static. The Textile Institute (England) will sponsor a conference on "Static Electricity in Textiles," to be held at Zurich, Switzerland, September 13-17.

Newspaper Answers Hoffman on Quotas. "What the Communists will do to us in Japan if we bar Japanese textile products is something I don't like to think about," said Paul Hoffman, arch supporter of tariff reduction. "But," observes the New York *Daily Mirror*, "it is even more difficult and unpleasant to think of what would happen to the American textile workers and the investors in American textile industries, if the Japanese were permitted to flood the American market."—*National Federation of Textiles Bulletin.*

Elastique OK for Army. The Army Chief of Staff has approved elastique for the new officers' and warrant officers' green uniform, and fur felt hats will be worn. However, only serge uniforms will be available at QM stores, so officers wishing to wear elastique must get their uniforms at exchanges or at outside sources.

Woolen Mills Urged to Use Cotton Blending Method. Woolen mills which regularly blend large lots are advised by A. P. Aldrich, of Aldrich Machine Works, to use a baling press—a new method in wool, but old in cotton and synthetic mills. Speaking at a recent meeting of the National Association of Woolen and Worsted Overseers, Mr. Aldrich stated that an automatic baling press with two boxes will permit one man to turn out five or six bales per hour, and will cut handling costs substantially. It is not economical on small lots.

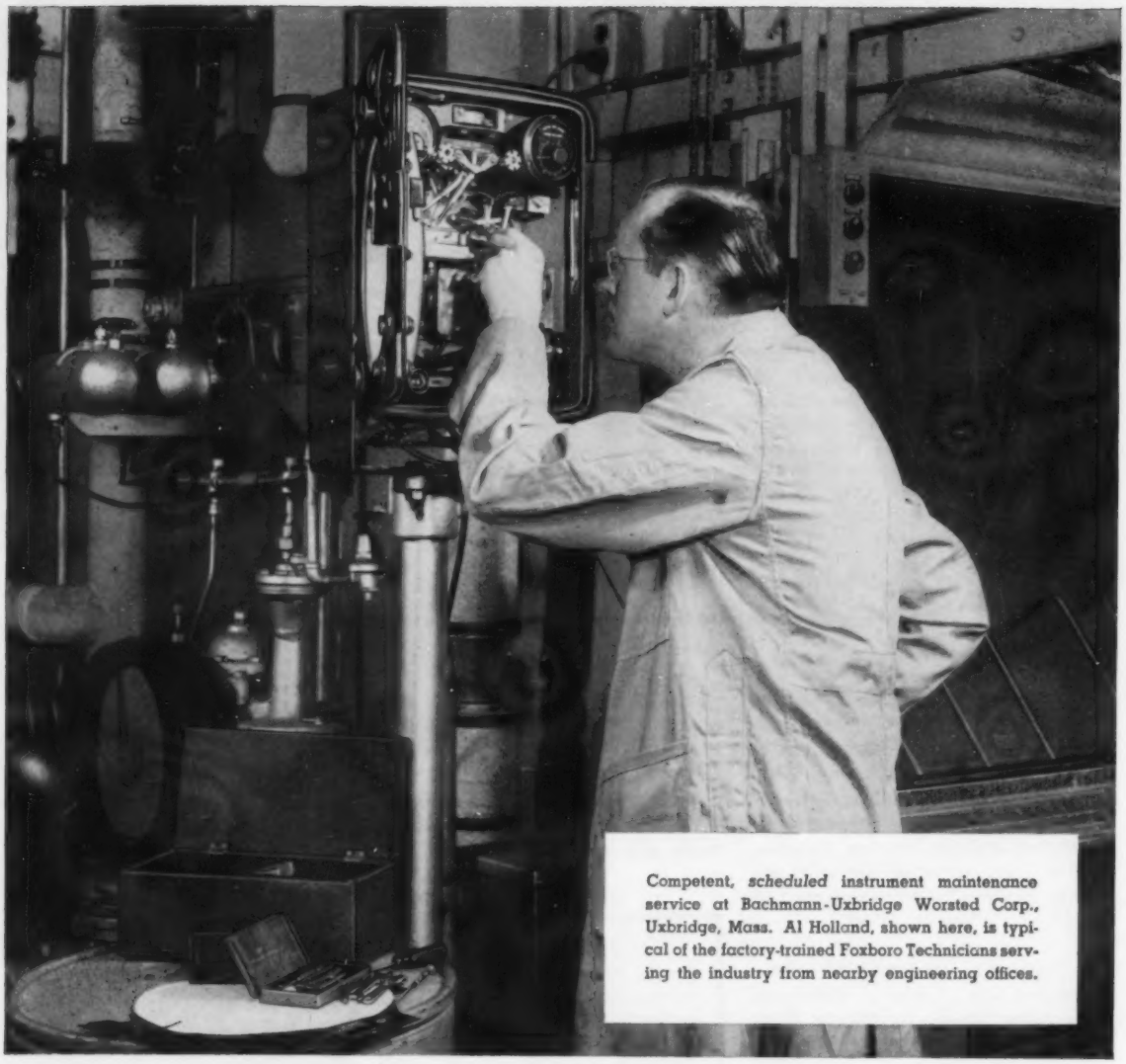
Human Relations in the South. "Human Relations in the Industrial Southeast" is the title of a new book just published by the University of North Carolina Press. Written by Glenn Gilman of the Georgia Tech faculty, the book was sponsored by the Textile Edu-

ATMA Asks Support of Mills

"The members of the American Textile Machinery Association . . . realize they have got to continue to spend large sums of money for further research in order to better enable the mills to compete with the low wage countries. These programs can only be continued on their present scale with the support of the American textile industry.

"If our operations were curtailed due to an influx of foreign equipment whereby we would find it necessary to reduce our research programs, then the United States textile industry would lose its competitive advantage, because the foreign machinery manufacturers, unless they completely reverse their trend of thinking, will not conduct extensive research programs such as are being carried on by the American textile machinery builders. Thus the manufacturing technique would tend to become static and the American textile manufacturer would have no advantage over the low wage countries as they would both be using the same type of equipment. —*W. Frank Lowell*, president of ATMA and senior vice-president of Saco-Lowell Shops, during Textile Education And Machinery Day Ceremonies on May 10.

Mr. Lowell



Competent, *scheduled* instrument maintenance service at Bachmann-Uxbridge Worsted Corp., Uxbridge, Mass. Al Holland, shown here, is typical of the factory-trained Foxboro Technicians serving the industry from nearby engineering offices.

Scheduled Service that saves you costly shutdowns!

There's no better way to avoid costly interruptions to production than by keeping your Foxboro Instruments and control systems operating at peak efficiency. And the simplest, most economical way to do it is with a Foxboro Scheduled Service Agreement.

Under this plan, a Foxboro Service Technician will call at your plant at regular, specified intervals to maintain, clean, and service your Foxboro Instruments. You'll not only be served by competent, factory-trained personnel, using genuine Foxboro parts and methods; you'll also save substantially over non-contract service. Supervision of instrument installation is also available where needed.

Don't wait until you're in trouble when it's so easy to prevent it. Let us recommend a *preventive* maintenance schedule for your plant now. Ask your Foxboro Field Engineer, or write for information today. **The Foxboro Company, 487 Neponset Ave., Foxboro, Mass., U.S.A.**

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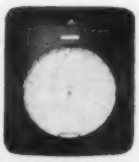
REG. U. S. PAT OFF.



SCHEDULED MAINTENANCE SERVICE

cation Foundation, Inc., an organization of Georgia textile executives. Professor Gilman's study examines the development and effects of public and industrial relations in four southern states, and will be used as a text in the Industrial Management Department at Georgia Tech.

C of C Backs Down on Quotas. The Chamber of Commerce of the U. S. has withdrawn a proposed declaration opposing quotas on imports from low-wage countries. The move came after protests from chambers of commerce in textile areas.

Wool Awards. This year's Golden Fleece awards of the National Association of Wool Manufacturers went to General Mark W. Clark, president of The Citadel; Bernard F. Gimbel, chairman of Gimbel Bros. department stores; Jan H. Moolman, chairman of the executive committee, International Wool Publicity and Research Fund; and Tenly Albright, 20-year-old figure skating champion.

Cotton Men Back Futures Bill. Support of a Congressional bill to permit mills to buy up to a year's supply of cotton in the futures market has been registered by the American Cotton Manufacturers Institute, New Orleans and New York Cotton Exchanges, and the U. S. Department of Agriculture, in testimony before a House subcommittee. The present limit for futures purchases on speculation is 30,000 bales annually, and ACMI estimates that the proposed change would affect about 100 mills.

Hotel Textile Purchasing Guide. The American Hotel Association has published a 111-page "Hotel Textile Purchasing Guide," based on American Standard L24, "Minimum Performance Requirements for Institutional Textiles." The book covers the usual linens, work clothes, etc., used by hotels, and may be obtained from the Association at 221 West 57th St., New York 19, N. Y. Price: $7.50.

MERCHANDISING NOTES

Allen Knitting Mills, Inc., has introduced a washable high-bulk Acrilan striped fabric into its line.

Chemstrand Corp. will fight the "bare-leg look" in its summer advertising schedule for nylon in consumer magazines.

Dan River Mills' current advertising for sheets is tied in with art work depicting such famous *femmes fatale* as Cleopatra, Helen of Troy, and Josephine.

M. Lowenstein & Sons, Inc., is an honorable-award winner in the 1955 Advertising Awards Competition conducted by the American Music Conference, for musical themes used in advertising the company's Dry-Nu fabric.

National Federation of Textiles, through its Warp Knit Fabric Manufacturers Group, has approved a voluntary minimum standard for 40-denier nylon tricot used in bed sheets. The standard calls for a maximum finished weight of 7.70 square yards per pound, and the sum of the wales and courses is to be a minimum of 78. Fabric conforming to the standard will be known as Type A. This construction will retail in white sales at about $2.98 for a fitted bottom sheet.

National Better Business Bureau, Inc., has been instrumental in securing a postal fraud order against a Brooklyn concern which advertised a plastic "Steam Bath Suit" as a way to reduce quickly by sweating away excess weight.

Pepperell Mfg. Co. reports quick customer acceptance of its new line of multi-stripe sheets.

Oneita Knitting Mills are now promoting a T-less T-shirt—a T-shirt with armholes instead of the conventional short sleeves. Another Oneita promotion is long underwear in charcoal gray, for coal miners.

A tufted bedspread manufacturer has introduced a spread with a metallic end between every other row of tufting. Mill price is $6.

BEDSPREAD by Cabin Crafts is woven of Fortisan and silk, with pattern outlined in Chateau embroidery. With dust ruffle and topper, it retails for $200 in single size and $230 in double size.

SCHIFFAMEYER

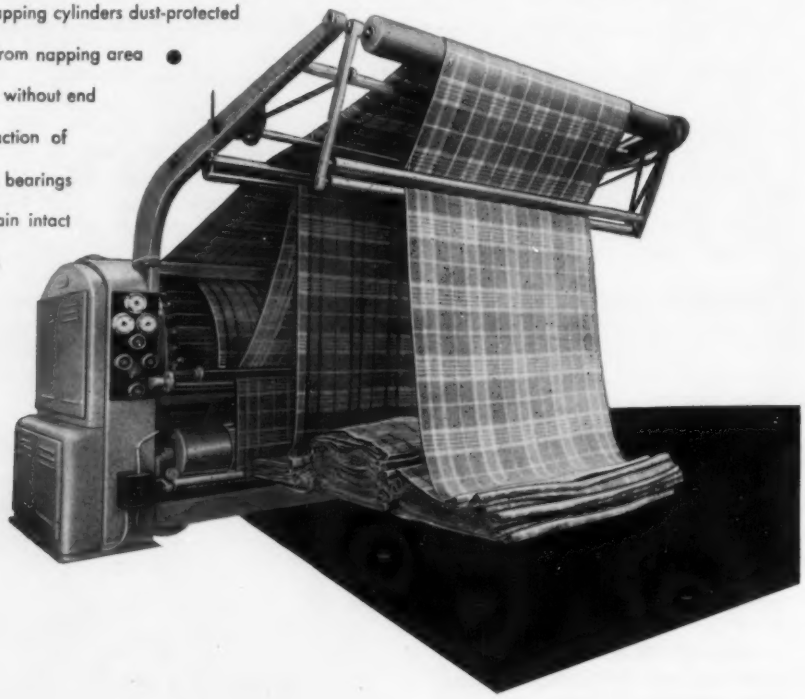
The new

Monforts Napping Machine, RZ type

will multiply your present output due to the following features:

Positive connection between cloth speed and napping effect. ● Setting of napping effect automatically maintained when cloth speed is changed ● Infinitely variable adjustment of setting, independently on pile and counterpile cylinders which may also be coupled in order to maintain the ratio between both cylinder series when modifying the napping effect ● Infinitely variable cloth speed between 8 and 50 yards per minute ● Infinitely adjustable cloth tensions

Driving elements of napping cylinders dust-protected and completely separated from napping area ● Newly shaped napping cylinders without end journals, interchangeable within a fraction of the time formerly taken, while bearings and driving gears remain intact on the machine



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A. MONFORTS MACHINE WORKS,
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AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Lobbying Study

HAVING spent more years than we like to remember in the textile industry, and having become somewhat jaundiced during that time in our attitudes toward the federal government, we must confess to a modicum of resentment toward most of the investigations which take place in Washington. One of the most recent of these Easter egg hunts has been the search for lobbyists who operate in and/or around the nation's capitol. Like the search for Bridey Murphy, it has been conducted both in the spirit world and in the world of mortals.

We do not for a moment doubt that there are lobbyists operating in Washington. Without any cost whatsoever, even the average citizen can obtain a list of such individuals and organizations by writing to the Clerks of the House of Representatives and of the United States Senate. Congressmen know who they are, because they see them almost daily in the corridors of the House Office Building and the Senate Office Building.

But what we are screaming about at this particular time is that while Congress is delving into these matters, it should expand its investigation to include all the lobbying which has been done, which is being done, and which is being planned on behalf of the various administrative agencies of the federal government.

If a senator whispers to his clerk that he thinks the Department of Labor appropriation is slightly too high, the "legislative liaison representatives" of the Department of Labor are swarming through the Capitol before the echo has died. Almost immediately the mimeographs begin turning, painting a bright picture of what great stimulus is being given to the American way of life by the various agencies within the Department of Labor.

Lobbying? It is our opinion that some of the most vigorous lobbying being done in the world today is being done by "legislative representatives" of the various federal departments. We singled out the Department of Labor merely by way of illustration, but you could substitute the names of many other departments with the same effect

While Congress is investigating the business lobbies, it might also take a look at its own back yard.

Right To Examine Books

In a recent issue of TEXTILE INDUSTRIES (May 1956) we discussed the case of the Truitt Manufacturing Company and its difference of opinion with the National Labor Relations Board. "The case," we said, "has now gone to the U. S. Supreme Court for final determination, and if the ruling of the lower court is overturned, we have indeed come to a sorry end."

That "sorry end" has now been reached, because the Supreme Court in a 6-3 decision has ruled in favor of the National Labor Relations Board.

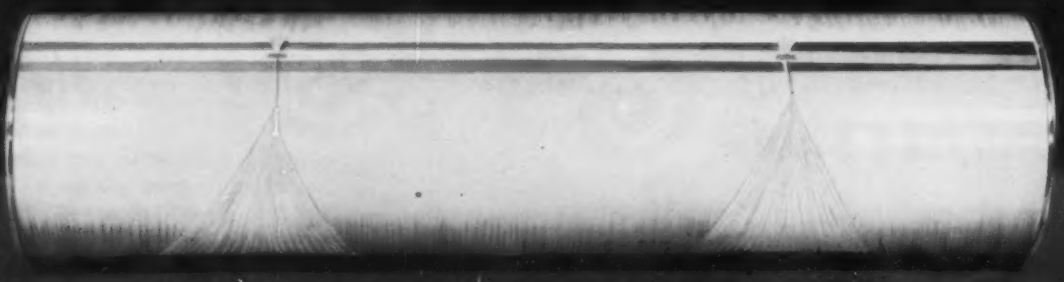
Briefly, this was a dispute between the Truitt Manufacturing Company and the AFL Iron-workers Union in which the union was asking for a 10 cents an hour wage increase, and the reply of the company was to the effect that it could not afford to grant this much. The company made a counter-offer of a smaller increase but continued to insist that it was financially unable to grant 10 cents an hour.

The Board held that, since the union had asked the company to substantiate its inability to pay by filing detailed financial information and by permitting the union's accountant to examine its books, the company was guilty of a refusal to bargain.

The company held in part that "good-faith bargaining necessarily requires that claims made by either bargainer should be honest claims. This is true about an asserted inability to pay an increase in wages. If such an argument is important enough to present in the give and take of bargaining, it is important enough to require some sort of proof of its accuracy."

The more we have seen about the United States Supreme Court lately, the hotter we have gotten under the collar. First, the Court refused even to so much as review the case of the approximately 150 mill plaintiffs who were suing the Secretary of Labor over his interpretation of the word "locality" under the Walsh-Healey Act. Then came the Court's own reversal of itself in a civil action brought by an injured man against a railroad (the Supreme Court had already upheld a decision awarding this individual some $90,000.00; he had spent most of the money on a house or car and other items, and then the Supreme Court came along and reversed its earlier decision). Now comes the Truitt case, and we are ready to sponsor an amendment in Congress to do away with the entire Court, and to

New Celanese 21″ x 84″ Beams offer definite advantage to tricot knitting trade



New 84″ beams are now being offered to the trade, after trial shipments of knitting sets which indicated simplified handling, improved quality, increased production.

FEWER BEAMS PER SET: The bigger size reduces the number of section beams required to make up a set. This means simpler handling from the very start.

EASIER LOADING AND THREADING UP: New 84″ beam cuts time and effort required to load and thread up machines. It simplifies setting up, starts production faster.

IMPROVED QUALITY: Gained because flanges are reduced by respectively eight and sixteen when compared with 42″ and 21″ beams. Flange reduction lessens the possibility of causes for defective fabric as high or low edges causing streaks; broken filaments and ringers due to flanges or edge ends (these in turn cause drag marks); high and low cover bands from varying beam circumferences, tapered beams or high or low edges.

INCREASED PRODUCTION: The 21″ flange doubles knitting production time as compared to 14″ flanges. This in turn reduces the time for creeling in the same ratio.

For further information, write
Celanese Corporation of America,
Textile Division, Charlotte, North Carolina.
Celanese®

Celanese Fibers For Industry

replace it by nine baseball umpires selected at random from the American and the National Leagues.

This may sound like a cynical and impudent proposal, but to us it is merely a symptom of the general feeling of dissatisfaction which seems to be spreading across the country as a result of some of the Supreme Court's recent decisions. Senator George A. Smathers (D-Fla.) recently proposed that in the future appointees to the Supreme Court should have at least five years prior bench experience. If anything, the Senator is even more vitriolic than are we. He says this Court "should not be a refuge for appointees drawn from the ranks of politicians, professors or friends of the influential. The Court should be reserved for judges." To all of which we would say a hearty and emphatic "Amen!"

The Truitt Case

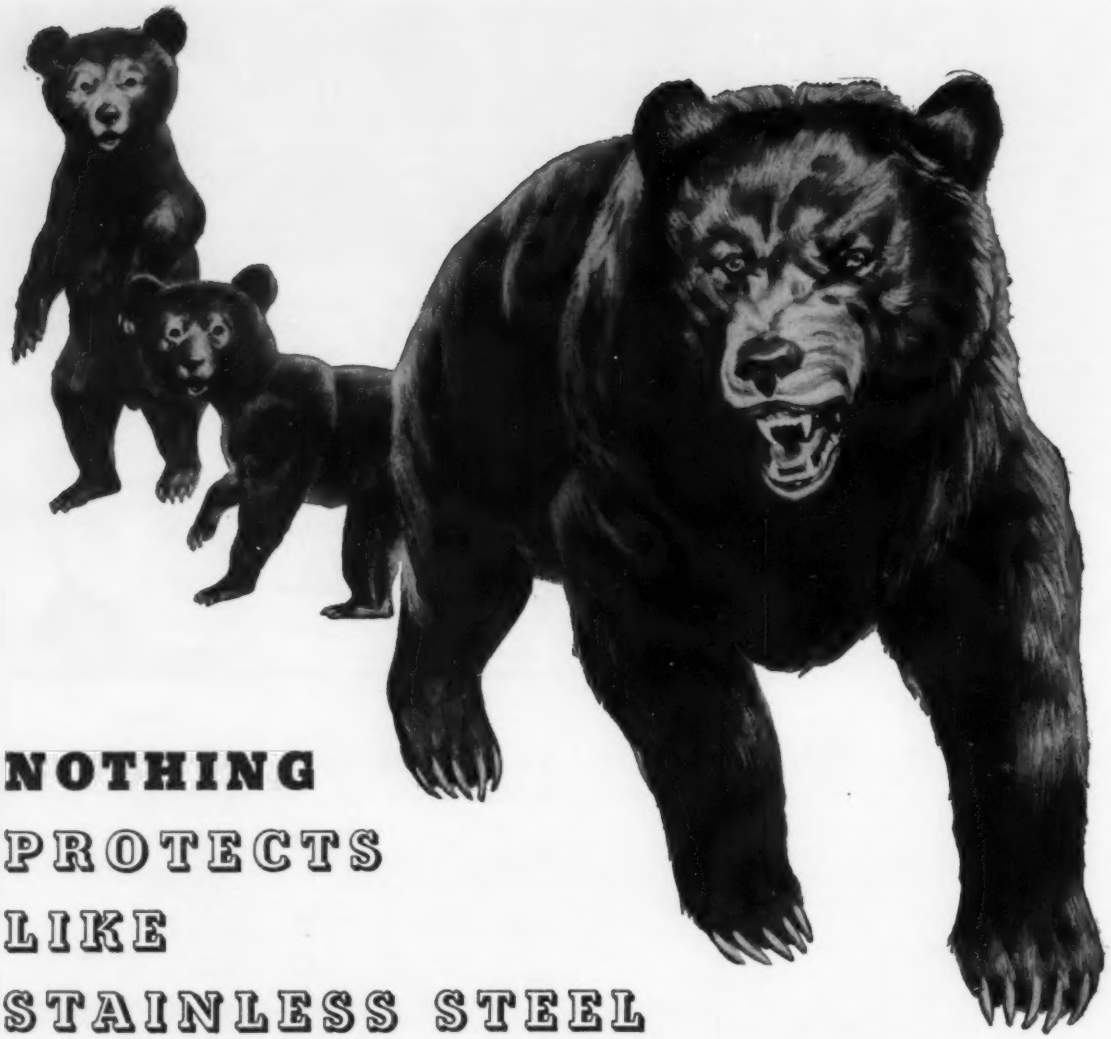
But let's get back to the case of the Truitt Manufacturing Company and the Supreme Court's decision that it has failed to bargain in good faith when it refused to submit certain financial data to the union and when it refused to let the union look at its books.

From the standpoint of a layman (and that is what this writer is), it is difficult to understand whether this decision applies to all cases of this type, or whether there may be one or more fine lines of distinction. It is true that the Court said that each case must turn upon its particular facts, but what are the facts that it must turn upon? If you happen to be in a somewhat similar situation to that of the Truitt Company, about the best advice we can give you is that you write, wire or telephone your nearest lawyer.

Now that the Supreme Court has ruled on this question, we would like to see some company file an action based upon the following hypothetical case: A union, acting in behalf of a group of employees, demands a 10 cents an hour wage increase. By its very nature, this demand implies that the employees "need" the money. The company then requests the National Labor Relations Board to give its permission for it to send the company accountant into each home of each employee, to investigate the financial condition of said employees, to ascertain whether or not said employees are living within their incomes, and whether or not the purchase of so-called "luxury items" such as automobiles and televisions has thrown the family budget out of kilter. The company would say, in effect, "Our employees have asked for a 10 cents an hour wage increase and we have the right to go into their homes and find out whether or not they really need this much."

Obviously, this would be an invasion of privacy, and our suggestion is merely a humorous one. Nevertheless, it seems to us to be a reasonably good corollary to the decision recently rendered by the highest court in the land.

Date		Event	Location
Sept.	6-7	The Fiber Society, Inc.	The Warwick Hotel New York City
	10-15	Perkin Centennial	Waldorf-Astoria New York City
	13-15	American Association of Textile Chemists and Colorists annual convention	Waldorf-Astoria New York City
	22	Southeastern Section AATCC	Hotel Ralston Columbus, Ga.
	27-28	Combed Yarn Spinners Association convention	Cavalier Hotel Virginia Beach, Va.
	27-28	Northern Textile Association and National Association of Cotton Manufacturers annual meeting	Wentworth By-The-Sea Portsmouth, N. H.
	28	Northern New England Section AATCC annual outing	Waschusett Country Club West Boylston, Mass.
	28	Philadelphia Section AATCC	Abraham Lincoln Hotel Reading, Pa.
Oct.	1-5	Southern Textile Exposition	Textile Hall Greenville, S. C.
	3-4	Chemical Finishing Conference	Hotel Statler Washington, D. C.
	6	Piedmont Section AATCC	Hotel Charlotte Charlotte, N. C.
	10-12	North Carolina Textile Manufacturers Association annual meeting	The Carolina Pinehurst, N. C.
	13	Georgia Slashing, Weaving, and Maintenance Discussion (TOE)	Georgia Tech Atlanta, Ga.
	15	Western New England Section AATCC	Hartford, Conn.
	16-19	ASTM Committee D-13 on Textiles	The Warwick Hotel New York City
	17-27	International Knitting Machinery & Accessories Exhibition	Granby Halls Leicester, England
	18	Rhode Island Section AATCC	Johnson's Hummocks Grille Providence, R. I.
	18-19	Southern Textile Methods and Standards Association	Clemson House Clemson, S. C.
	22-26	44th National Safety Congress and Exposition	Conrad Hilton Chicago, Ill.
	27	Alabama Textile Operating Executives fall meeting	Thach Auditorium Auburn, Ala.
Nov.	27-30	National Chemical Exposition	Public Auditorium Cleveland, Ohio
Dec.	1	South Central Section AATCC	Hotel Patten Chattanooga, Tenn.



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Write for your Copy:
AL STAINLESS STEEL Report to the Textile Industry

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LINEAR REGULARITY (left) is noted on Uster evenness tester. Technician observes Quadratic Integrator while running card sliver. Flat strip weighings (right) are recorded from samples of strips from 50 flats at each weighing. Results of the two tests are recorded on appropriate grinder's records (see charts in figure 5) in card room.

Here's How One Lab Helps Control Quality in Carding

BY RAMON PARKS

EXCLUSIVE

COMPETITION in the manufacture of industrial fabrics has reduced our processes to the minimum consistent with the quality (particularly breaking strength) required to meet our customers' specifications. This means that every process in the card room must be watched very carefully, since there is no chance to cover up mistakes by means of several doubling processes.

Three Tests. In addition to the regular weight or sizing tests, we make three types of tests on the cards, each of which the card grinders can do something about. The tests are for linear irregularity, flat strips weighings, and nep count.

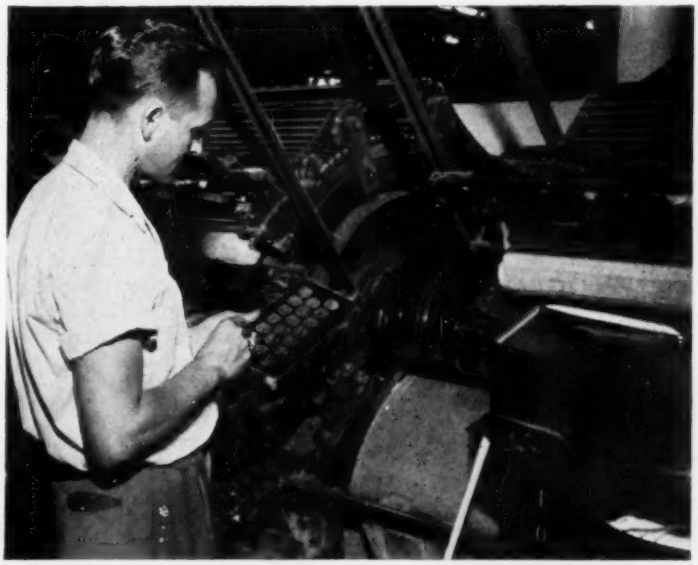
The linear irregularity test is normally made on the Uster evenness tester. However, some check tests are made on the Saco-Lowell sliver tester. This latter instrument has been in use for years and, because of its simplicity, is more easily understood by the card grinders than the newer electronic instruments.

Personnel Shown. Before starting a testing program the overseer of the card room was requested to bring his secondhands and card grinders to the laboratory. There they saw the laboratory instruments in operation, and the functions of each were explained.

Test reports, charts, and test procedures were explained. A discussion was conducted on the theory and practice of carding, the functions of the various parts of the revolving flat card, and the causes and remedies for the various forms of bad work from the cards.

While it is not always possible to use laboratory technicians who are experienced in carding, we encourage them to work closely with

NEP COUNT of card web is made with template developed at N. C. State College.



TEST RESULTS ARE POSTED in card room on clip boards placed there for purpose. Card grinder watches technician post results on his cards.

EACH GRINDER is supplied with test results pertinent to his section. All forms are standardized and are posted conspicuously in one area in the card room. Such posting permits each grinder to compare his section's performance with that of his fellow grinders.

the men in the card room and to learn all they can about the operation, care, and maintenance of the card. This procedure helps laboratory personnel to gain the respect and confidence of the personnel in the card room.

Taking Samples. The technicians who were to make the tests were cautioned to exercise extreme care in taking samples. Since stretched sliver results in misleading test figures, emphasis was placed on the importance of not stretching the sliver. They were instructed to be absolutely fair and impartial and to record all test results just as they found them without fear or favor.

When making the normal routine card tests the technicians were instructed to take samples from cards ground the previous day. This would put all card grinders on an equal basis and the cards were usually in the peak of condition. No test was to be made within 15 minutes before or after laying laps (except special lap laying tests which will be explained subsequently).

If a card had a choke in it, or an end had just been down, the operative was instructed to wait until the sliver cleared up before making a nep count. Also, no nep counts would be made in an area where cleaning was in progress. Of course, none of these precautions applies to special tests which are sometimes made to check the cards for specific forms of bad work.

From actual experience we have found that the newly-ground cards are not always in good condition and that they sometimes actually make bad work. These cards are reported to the overseer as soon as discovered.

Upon examining the difficulty, if the overseer believes the card to be satisfactory he will request a re-check. But if the examination by the overseer, or the re-check, confirms the original test, the card is taken out of production until the condition causing the bad work is corrected.

Results Posted. The card grinders keep up with the results of the tests on their respective sections by

observing the posted results on forms. These forms (made for recording the test figures) were put on clip boards, one for each card grinder, and hung in a conspicuous place in the card room.

The boards were all placed adjacent to each other so that each man would have no difficulty checking his neighbor's board. In this way a considerable amount of rivalry was created. No grinder wanted to be outdone by another. Also, a certain amount of job pride was developed, especially since the results of their efforts appear in black and white for anyone to see.

A form similar to the ones we use is shown in the accompanying illustration. While it is possible to design the form so that all three types of tests could be put on one sheet, only one or two rounds of tests could be recorded. By putting each of the three tests on separate sheets (one sheet on top of the other on the clip board) more rounds could be shown. In this way several tests from the same card will appear on the sheet, and the grinder can tell whether he is making progress or losing ground.

In the event a card is ground but not tested, an "X" is put in the space for that day, so that eventually each space will be filled, either with test results, or "X" to indicate that for some reason tests were omitted.

Lap Laying Tests. For a long time we suspected that piecings made when the card tenders were laying laps were affecting the quality of our work, especially the evenness. We collected some sliver containing these lap piecings, ran them on the evenness tester, and found that in many instances extreme variation existed.

We had the tenders lay laps in their usual way. Then we collected the sliver containing the piecings brought them to the laboratory, and invited the overseer to bring his secondhands and card tenders to the laboratory.

The card room personnel came to the laboratory one at a time and watched the sliver being run on the evenness tester. These tests were repeated until each of the tenders made considerable improvement in his ability to lay laps properly. Periodic tests are made to assure that lap laying is satisfactory.

Editor John C. Fonville Retires

THE BOARD of directors of W. R. C. Smith Publishing Co. regretfully announces the retirement of John C. Fonville as Editor of TEXTILE INDUSTRIES and as a director of the company.

On January 6, 1956, John Fonville completed twenty years of service with the W. R. C. Smith Publishing Company. A textile engineering graduate of the Alabama Polytechnic Institute, he has devoted his entire working life to the textile industry. Following several years of actual textile mill work, he became Associate Editor of TEXTILE INDUSTRIES in 1936 and Editor in 1946.

During the twenty-odd years of our association, John Fonville has impressed me as being a man who knew what he wanted, knew how to go about getting it, and who worked intelligently and tirelessly until his goal was achieved.

His business goal was that TEXTILE INDUSTRIES be the leader in its field by supplying the practical, usable information necessary for the successful operation of a textile mill or department. To this end he has undoubtedly contributed as greatly through his personal unpublished efforts as he has through the published material in the magazine.

Upon reaching his business goal, his personal ambition has been to retire from active business somewhat sooner than most and to devote his time to his family and the outdoor life he loves so well.

On July 1, 1956, John will have achieved both of his goals. He relinquishes the editorship of TEXTILE INDUSTRIES secure in the knowledge that it is considered by a majority of textile mill men as their production and management bible. The publication's philosophies and policies are firmly established, and while he will be missed by his readers and his associates, TI will continue to be edited on the high plane on which he has placed it.

John's plan is to reside in Florida and to take life somewhat easier, but does not call for a complete disassociation with the textile industry. He will contribute to TEXTILE INDUSTRIES in a consulting capacity, and has already completed arrangements to serve several mill organizations and machinery and supply manufacturers on a similar basis.

I am sure that his many friends in the textile industry join me in wishing John good health and abundant happiness in this new phase of his life. I also believe many will share my feeling of envy—envy for a man who has so planned and lived his life that he can achieve his goal at such an early age and in the comparatively short time of twenty years.

RICHARD P. SMITH
President

Glass Yarns Present Unique Problems
Here's How to Overcome Them

Product development of glass textiles has been characteristically deliberate since a continuous filament glass yarn was first introduced in 1938. As a result, the fiber is being functionally applied to basic end products, which include roving, yarns, cordage, broad woven goods, narrow fabrics and tapes, parallel strand reinforcing, braids and sleeving, knitted constructions, and woven tubing; the broad goods field alone includes at least 60 standard fabric styles.

Hess, Goldsmith & Co., Inc., a member of Burlington Industries, has been responsible for establishing a lion's share of the manufacturing technology available for these product classes. The seven-mill group, for over 70 years a silk system specialist, entered the glass field when Owens-Corning Fiberglas Corp. introduced the fiber; today glass is the dominant fiber in use at the Hess, Goldsmith mills.

The following article describes the highlights of the techniques used in the company's Penn Ave. weaving plant in Wilkes Barre, Pa., to produce broad woven glass fabrics.

STAFF PREPARED

EXCLUSIVE

THROUGHOUT GLASS manufacturing operations, two unique conditions exist: The fibers of the most used filament form of yarn bruise easily, and there are no outlets for seconds. These originate in the former case because of inelasticity and ease of damaging the fiber through abrasion. This is compounded by a slipperiness which makes glass yarn difficult to handle; by its high linear strength, and abrasive nature of fly which in manufacturing is cause for considerable machine parts wear; and by the tendency of foreign matter to form a hole in high temperature finishing, which makes absolute yarn and fabric cleanliness a must.

As a result, almost all equipment at Hess, Goldsmith has been modified to provide strong, contiuuously smooth surfaces where machinery touches yarn; in addition, particular attention is paid to keeping yarn and fabric soil-free, and to keeping glass fly away from product and machine. A basic mill rule is one of minimum yarn and fabric handling: Every time glass is handled, it can be damaged.

A final general manufacturing requirement is that speeds are somewhat reduced from normal filament-mill levels.

Warping. Because of low stretch in glass yarns (three per cent at maximum stress), warping is more critical in this work than with ordinary processing. At Hess, Goldsmith, both horizontal (silk system) and direct warping are used.

In horizontal warping, loose ends or sections result in loose ends in weaving which will not take up in the cloth. Particular attention must be paid to beaming down, so that the warp is started up straight to prevent uneven yarn build-up, which would cause sagging in weaving.

Again in direct warping, the pressure roll of the wind-up unit must be set perfectly; if it is out as much as 1/64 inch, one side of the warp will build up higher than the other and will result in a "bagging edge." More tension should be applied at the rear of the creel than at the front because of the tendency of glass yarn to sag over the longer distance and wind up loose.

Glass yarn is not, strictly speaking, run from a fully automatic creel (two or more packages in creel tied up tail to head) because of the inability of the yarn to hold a knot. (Generally, when glass yarn must be joined, it is spliced with a starch adhesive rather than knotted.)

Slashing. The basic guide to slashing glass yarns includes slashing only single yarns and low-twist plied yarns. There is quite a variation in the size formulations (which include starch and gelatin base types) because of the great variety of yarns, sley, and end use requirements.

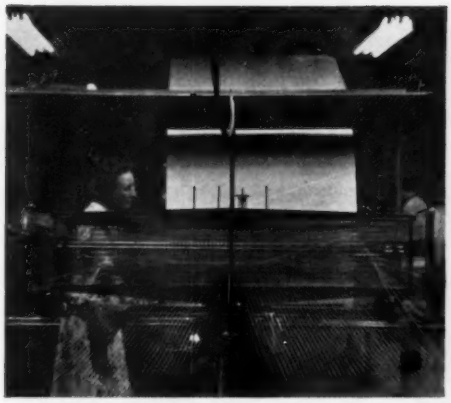
As a rule, slasher temperatures are 25° to 30° higher than in acetate slashing. Quetsch pressures too are higher than usually employed in filament mills. These usually run about 250 pounds at the Hess, Goldsmith glass operation. The function of any glass size is to coat the fiber, as the product is nonabsorbent.

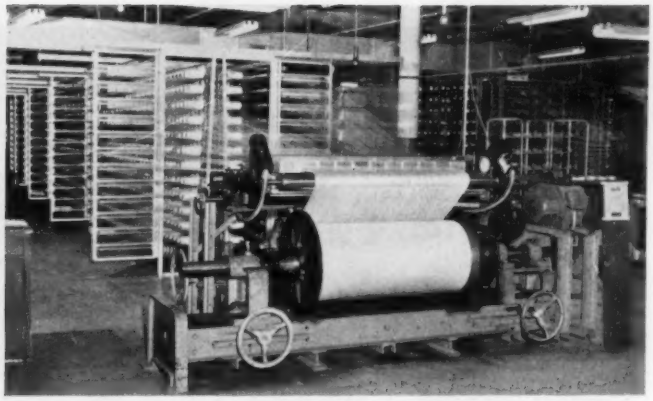
Entering. Heddle condition is critical in drawing-in glass warps. An interesting precaution followed by the mill is the examination of doupe heddles for leno curtain weaving. A magnifying glass similar to the units used in the early days of TV is mounted at a set of harnesses in the entering room and the operator inspects the set heddle-by-heddle for burrs and places on the heddles that are worn sharp. This prevents undue bruising of the abrasion-sensitive glass yarns.

Hess, Goldsmith generally consider it more convenient to enter warps of 900 ends or less rather than to knot them at the looms; knotting is done, however, by pretreating the warp sheet with a plasticizer and then machine processing.

Quilling. The mill's Whitin-Schweiter machines are equipped and tended with three points in mind:

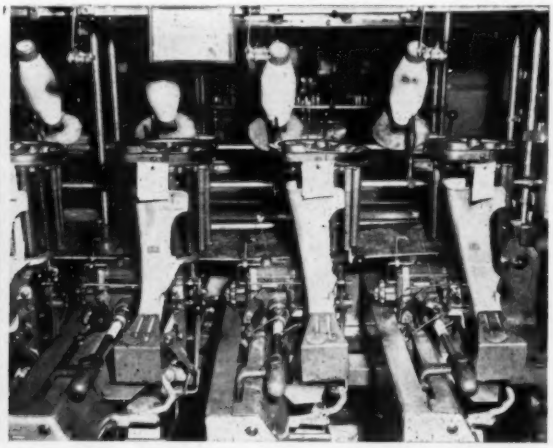
1. Don't tie knots





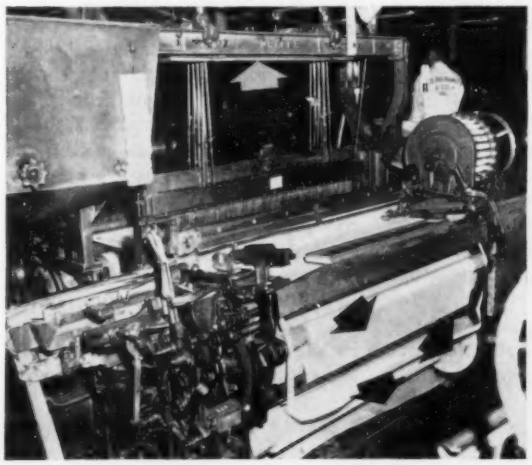
HORIZONTAL WARPING (left) and direct warping (right) are used for glass, are more critical operations than they are with standard filament processing. The main check point here is for loose ends, sections, or edges; loose yarns on a loom beam will not take up in weaving and even out, but will sag and build up in looseness.

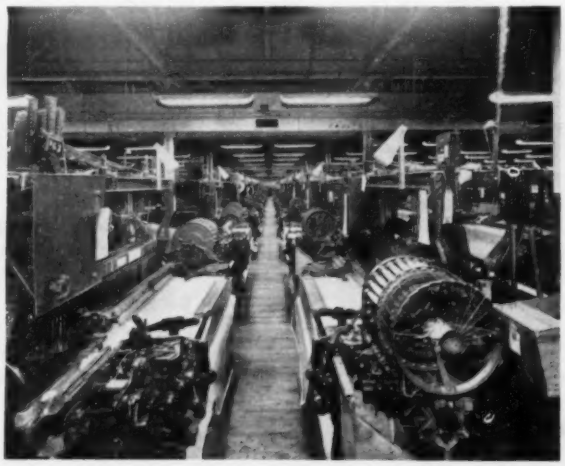
ENTERING (drawing-in) is usually done by hand away from loom because glass is not readily knotted mechanically, and because the heavy nature of the yarns makes hand work practical. Whenever glass yarn is touched (and it should be handled as little as possible), it is vital to keep it clean and free from knots and bruises. Because of abrasive action of glass yarn, these heddles are nickel plated.



QUILLING also requires special care: AlSiMag guides for tensioning, never allowing yarn to abrade on itself, frequent cleaning of abrasive glass fly, use of chrome plated oscillating guides for longer wear, and smaller diameter of finished quills than normal filament yarn quills. Glass has great linear strength but abrades easily in bending and contact with rough surfaces.

WEAVING is done on about 700 XD's and S-6's (S-6's not shown). Soils on glass goods will burn out as holes in high temperature finishing (Coronizing) and perspiration marks will stain; to guard against this, note cleanliness measures in loom close-up at left (arrows). To minimize rapid wear (with resulting filament ruptures and strip-backs) reeds are chrome plated; shuttles are of light plastic to compensate for high specific gravity of the glass yarn. Race plate felt is covered with cellophane tape to prevent it from abrading glass. Note air conditioning in room photo at right: it's important for minimizing static as well as for usual reasons.





INSPECTION. Note that all rolls of glass cloth are straight edged; also note that trucks at lower left of photo are padded with cardboard to prevent bruising by metal edges.

HANDLING SYSTEMS are used at Hess, Goldsmith wherever possible, for two reasons: The glass product is generally about twice as heavy as a corresponding volume of filament synthetic product, and glass should be manually handled as little as possible to minimize bruising. This example, in the quilling department, shows a mill-devised rail system for conveying quills.

2. Don't abrade the yarn with rough or worn parts, or by its action on itself
3. Handle yarns as little as possible.

Quills are prepared with standard tension for both XD and S-6 looms, but all oscillating thread guides are stainless steel which have been chrome plated; tensioning members are AlSiMag.

Quill diameters are usually smaller than normal for a filament mill, because the smoothness of the yarn is more conducive to sloughing off. In finer yarns, this reduction amounts to about ¾ of normal. Because twist tends to back up and split filaments, quillers are usually run without pinch tensions.

Fly in the quilling department is considered a hazard because of its abrasive effect on yarn and machine parts, and the room is kept as free from the condition as possible.

Weaving. The Hess, Goldsmith loom complement of about 450 Drapers and 250 C & K S-6's have been adapted to the glass job in many ways; in addition, a regular loom patrol system provides in-process inspection.

Key loom precautions include:

Shuttles: Plastic shuttles are used to get satisfactory shuttle life; since the weight of glass per unit volume is about twice that of the average filament yarn, the lighter plastic shuttle reduces the over-all quill-plus-yarn-plus-shuttle weight so that checking is less severe a problem. Most shuttles using glass are furred to prevent sloughing-off of the smooth yarn.

Shuttle eyes are susceptible to clogging by glass fly, especially when spun yarns are woven; and if they become constricted so as to prevent feed-through of yarn, a smash hazard is formed. High linear strength of the glass yarn will stop the shuttle rather than allow the yarn to break. Shuttles are therefore picked out of the loom on a regular inspection basis and inspected and corrected for fly obstruction as required.

Reeds and Heddles: Reeds are chrome plated and heddles are nickel plated to minimize the abrading effect of glass yarns. If a worn or rough metal part contacts the glass yarn, filaments will strip back, and warp and filling yarns will break.

Race Plate: A conventional felt race plate will cut glass; Hess, Goldsmith's looms are adapted to this condition by using felt race plate covered with cellophane tape.

Pick Wheel: Most pickages in glass weaving are low, in the range of 25 to 30; to prevent barre, the take-up must be engineered. The intermediate gears in the take-up train are therefore usually finer.

Selvages: Prevention of breakage of selvage yarns through high filling tension is effected by use of a selvage needle; this also prevents breakage of selvages through yarn-against-yarn abrasion.

Static: Static can cause glass filling to cut; this is avoided by inserting wire and/or fur static eliminators near cloth edges to keep the pick away from the shuttle and prevent it from cutting on itself. Humidity levels are kept at 65-70 per cent and the mill is air conditioned to keep this constant.

Scheduling: One characteristic of glass weaving is the increased scheduling facilities required to keep up with the coarse-yarn, low-pickage fabrics (200-300 denier is the equivalent of the average

glass yarn) which weave out of a loom quickly. As an example of this, a quill of 150-denier rayon at 68 picks per inch will weave out of a shuttle in about five minutes; a glass yarn average for a heavy quality will transfer in half a minute.

Materials Handling. Most of the mill is equipped with a monorail system to accommodate the unusually heavy glass yarns in one form or another.

In the quilling department, a mill-devised conveyor system services filling winders and feeds to a central point; the reduced manual handling of quills thus developed minimizes soiling and bruising of filling yarn.

All quills are packaged and moved in boxes rather than on pin boards.

Inspection. Glass goods are examined either before or after finishing (tentering) at the Wilkes-Barre plant; lighter weight goods are generally weave-set first.

How Glass Yarns are Designated*

A typical glass yarn would be marked:

ECD 450-3/2

The first letter, E, denotes the type of glass, in this case electrical (has excellent electrical properties); type can also be C (compounded for chemical resistance).

The second letter, C, denotes the type of fiber: C for continuous filament, S for staple.

The third letter denotes filament diameter: D—0.00023 inches, E—0.00028 inches, F—0.00033 inches, and G—0.00038 inches.

The numerical designation following the letters indicates yards per pound of the base yarn expressed as 1/100 of its value, and the split number following yards per pound indicates the number of the plies followed by the number in the cable. In the above example, 450-3/2 means that the yarn runs 45,000 yards per pound in the singles, and that it is made up of two cabled strands of the base yarn, plied three times.

*Adapted from a technical manual published by Owens-Corning Fiberglas Corp.

Packaging. The basis for shipping department packaging is one of complete wrapping. Experience in handling the easily damaged glass has taught the mill ways to avoid making goods unsalable because of inappropriate packing:

1. The package must be hard, with even edges.
2. Packages must not be banged around.
3. Pieces should never be wrapped with tubes sticking out—the entire end should be covered with paper.
4. It is often advisable to support the end of a tubed piece with a corrugated paper disc cut to the exact diameter (overall) of the roll of cloth.

Greenville Show Gets Bigger and Bigger

THE COMBINATION of its own steady growth over the years and the current upturn in the textile industry, enabling mills to speed up their modernization programs, augurs well for the 1956 Southern Textile Exposition to exceed all previous Greenville shows.

The 19th biennial exposition will open Monday, Oct. 1, and close on Friday, Oct. 5. Show hours daily will be from 9 a.m. to 6 p.m.

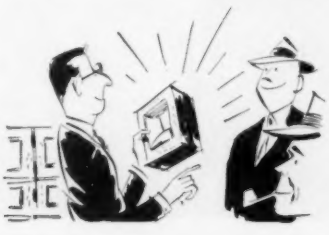
More than 300 domestic and foreign exhibitors have contracted for space, reports Bertha M. Green, secretary of Textile Hall Corporation, sponsors of the show.

Erection of a 7,500 square foot addition to the newest of the Textile Hall annexes brings the total exhibit space for the 1956 show to 95,000 square feet. Forced ventilation has been installed in all buildings to meet the contingency of unseasonably warm weather, such as prevailed in 1954.

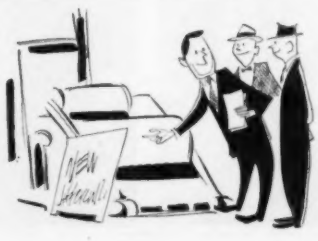
The list of exhibitors indicates

THREE REASONS WHY YOU SHOULD PLAN TO GO TO THE GREENVILLE SHOW

1. To improve your knowledge of equipment and supplies available.



2. To learn about new methods and processes from exhibitors. . . . .



3. To meet other mill men and discuss common problems informally.

that a wider variety of heavy basic machinery and equipment will be shown this year than usual and that virtually every major U. S. textile machinery manufacturer has booked space, including several who did not participate in 1954. There are also a few Japanese and European firms represented for the first time.

The Greenville show two years ago attracted some 40,000 visitors, and Textile Hall officials say attendance may be even larger this year. However, a well-planned program has been worked out for accommodating both exhibitors and visitors according to Miss Green.

Since the 1954 exposition many new and attractive motor courts have gone up in the Greenville area, supplementing hotel accommodations; and hotel and motor court facilities in Anderson, Clemson, and Spartanburg, all within 33 miles of Textile Hall, are also being drawn upon.

Globe Modernizes Sulfur Black Chain Warp Dyeing

Philadelphia's Globe Dye Works is well known for its large scale package and skein dyeing operations on cotton, wool, and synthetic yarns. During the last two years, however, Globe has strengthened one of its older dyeing methods, chain warp dyeing, through a modernization program which includes the design (Globe's own) and construction of a continuous sulfur black warp dyeing range.

STAFF PREPARED

EXCLUSIVE

WARP DYEING is used principally by mills making tapestries, upholsteries, terry products, and other specialty fabrics. Such mills are not generally set up to warp directly on high speed equipment from dyed yarn packages.

At Globe, because of the novelty nature of the work, which includes comparatively short runs of many color combinations, warps are composed of from 200 to 1500 ends of cotton yarn, weighing from 300 to 2000 pounds per set Warps are dyed on commission, separated, and shipped to customers in chain form.

Because it recognizes a growing novelty trend in the market, Globe Dye Works has modernized its chain warp dyeing department to

SULFUR BLACK RANGE consists of a creel for eight cotton warps at left, a binder section (arrow), and the four-box continuous bath which is fed from far rear of machine. Dyed warps deliver to a truck behind binding station.

OPERATOR SKILL is critical on the black range. Stop-causing tangles must be avoided. Operator shown here is tending the binder station where pairs of warps are bound by a heavy thread to prevent yarn breakage during processing.

meet today's efficiency requirements.

Equipment. While in the old days, most chain warp dyeing was done in single wooden boxes, the Globe program has called for installation of eight stainless steel double-box units, and one continuous four-bath sulfur black range. The double box machines are equipped with rubber rolls, allowing successive dye lots of different colors on the same machine.

Manual Skill. Characteristic of the continuous nature of the warp dyeing process is the requirement for considerable operator experience; anything that stops the machine will cause the warp immersed in the bath to pick up more dye than the rest of the set. Because of this, tangles or "lommies" must be handled deftly; warp stringing-up and threading-in must be expertly done to prevent this.

Another technique that is important is "doubling down." This consists of lapping the same warp so that it will run through in, say, one run of 1000 yards instead of one run of 3000 yards by folding the warp to a triple thickness.

Sulfur Black. The range, built by Globe to dye sulfur black continuously, creels eight packages of cotton warps simultaneously. Pairs of warps are bound with a heavy yarn before entering the first bath so that end breakage and tangling are minimized.

All four boxes are made of cast iron (to hold up under sulfides) and are mounted in tandem. The first bath is the standing black and is separated from the second by a good squeeze to throw excess black back into the first bath. The second bath consists of a cold water wash. The third is a fastener bath of chrome and acetic acid, and the fourth is a finishing bath (oil).

Wool Carders: Watch These Four Causes for Shaking Tape Condensers

BY WILFRED DESCHENES
Overseer of Carding
Bauber Spinning Co.
Ware, Mass.

EXCLUSIVE

1. Condenser will shake if length of stroke varies from bank to bank; even if strokes are adjusted to a point where bank to bank inequality is slight, condenser will still shake.

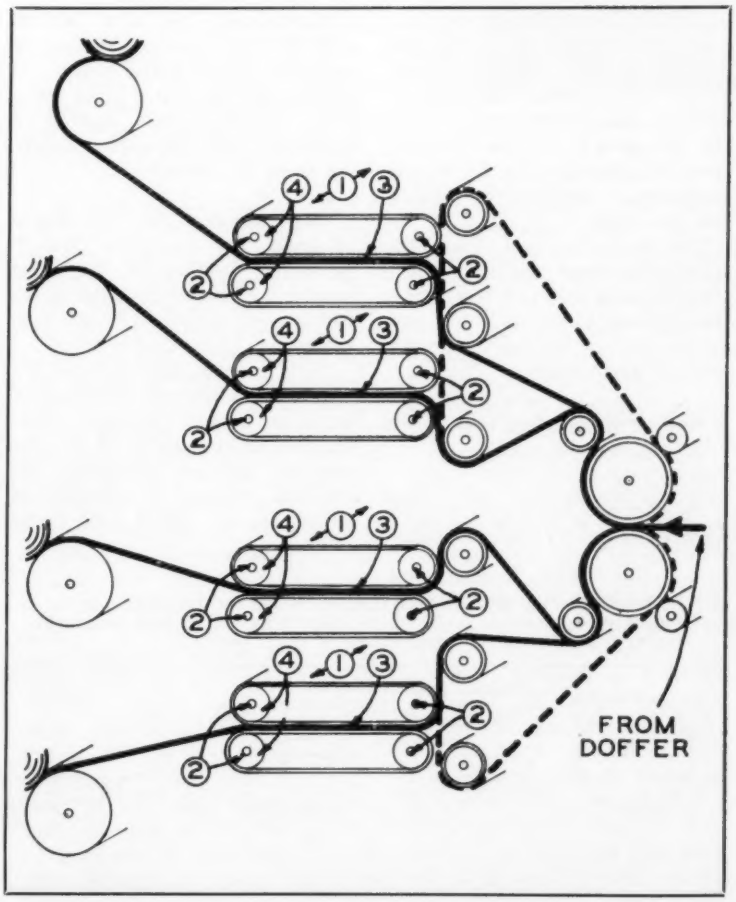
2. Condenser will shake if there is too much play in apron sleeves. The nuts at this bearing should be "finger" tight.

3. Condensers will shake if aprons are run with too much tension. Besides shaking, aprons tend to wrinkle, and to bow apron rolls. Bowing is more apt to occur as card widths increase.

4. Condensers will shake if there is a hard lap of waste on apron roll, particularly on bottom bank rolls, which are hard to see. This is often a cause of shaking even when stroke, apron sleeves, and apron tensions are OK.

A Method of Setting Condenser Aprons

To set condenser aprons to each other, it's a good idea to set the middle tension roll free first, and then set the aprons to a free 28 gauge. This will permit getting more condensing, if necessary, without changing length of the stroke. It is advisable, however, to change stroke length to minimize danger of apron heating.



How to Get the Most from Spinning Builder Motions

PART II*

Straight Filling Wind

BY MALEY CHAGRO

EXCLUSIVE

SINCE THE SCOPE of this article does not permit a discussion of all builder motions, reference is made to the Whitin builder in all cases not otherwise specified.

Changing from a Straight Warp Wind. Lower and lock the ring rail. Remove the chain hook from the rack and place it in a hole on the filling arm; if from a combination warp-filling wind, simply place the hook in the desired hole.

On Saco-Lowell combination builders the rack is taken out if the changeover is from straight warp to a filling wind. On Whitin combination builders the rack is not removed.

The next step is to raise the hood of the head end and remove the old twist and rail (lay) gears and replace them with the new gears, leaving the rail gear disengaged from mesh.

Cam. Install a four-lobe filling cam (filling cams usually have three or four lobes for various type builders, all performing similar functions).

At this point the section man should carefully check the way the filling cam is put on. Reversing the cam reverses the raceways between the lobes and affects the traverse momentum of the ring rails (either a slow upward and fast downward momentum or vice versa).

It has been the experience of some mills that a slow upward and fast downward ring rail prevents sloughing at the shoulders of the taper. When the filling yarn is being woven from the shuttle the yarn woven from the shoulder to the nose of the taper is the yarn wound with the fast downward traverse of the ring rail.

Conversely, the yarn wound with the slow upward traverse of the rails, when being woven, is woven with the yarn going away from succeeding coils instead of into them, thus preventing sloughing from this source.

The Quadrant. The next step is to lower the quadrant. This is necessary, because of the short raceways between the lobes of the filling cam, to induce faster rocking motion to the rocker arms.

Turn the cam shaft by hand until a toe of a lobe sets directly center of the pitman roll (cam roller). Unlock the ring rail and note the starting position. Readying the starting position is achieved by taking up or letting out on the chain.

Traverse. Once the desired traverse is determined, the starting traverse will in no way affect the length of the finishing traverse.

In one mill the starting traverse with bottom former is 1⅝" and the finishing traverse is 1⅞". This was determined, when the bottom formers were first put into operation, as being the best starting traverse to include the increased yardage from the former, and yet not allow sloughing at the loom.

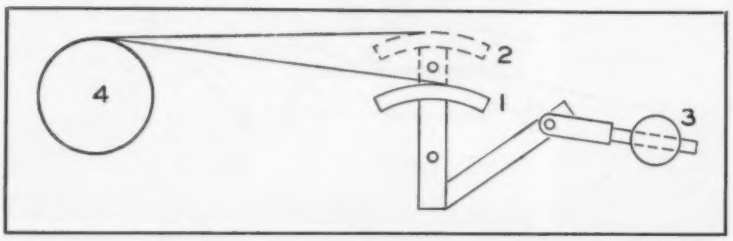
Pencil the correct starting position on the bobbin, and then turn cam until the heel of the lobe lies directly center over the pitman roll. To do this relock the ring rail. Now unlock the ring rail again and bring it to its highest position and again pencil the bobbin.

The starting traverse for the straight filling wind is now known. If a traverse of 1⅞ inches is desired and the starting traverse is 1¾", the quadrant will have to be lowered, sometimes to the bottom of the quadrant arm.

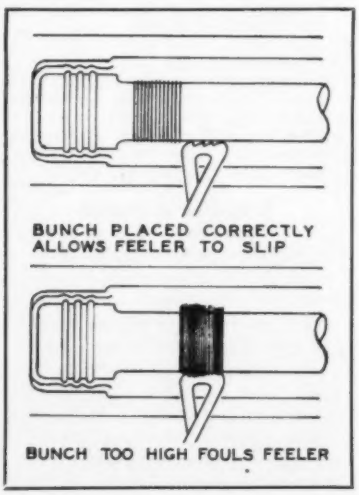
If the bottom former is to be

*Part I "Straight Warp Wind" appeared in the June issue. Part III, the concluding installment, will appear in an early issue of TEXTILE INDUSTRIES as "Combination Wind."

LOWERING THE QUADRANT (1) gives longer rocking motion to the rocker arms. Raising it (2) gives shorter motion. Other numbers represent: (3) weight on rocker arms (4) chain pulley.



WHEN CORRECTLY PLACED (above) the bunch permits the feeler to slip on the bare bobbin after the body of the yarn is exhausted. In the lower picture the bobbin is out of position (too high) and will not let the feeler slip until the bunch is run out.



used, a segment of the chain pulley is removed, which in effect slows down the rocking motion of the rocker arms at the start. The picking action gradually increases the chain travel until the true radius of the chain pulley comes into use.

Running Requirements. The pick gear should be kept clean and the pawl kept in good condition. The loss of a pick will increase the diameter of the bobbin and cause binding in the shuttle. The gain of a pick, through human or mechanical fault, will result in too small a diameter, and a loss in efficiency in both spinning and weaving.

Training doffers to be observant and equipping them with filling gauges add little to their physical tasks, and can be the means of preventing bobbins with wrong diameters.

The setup of straight filling wind on other type builders and the types of bottom formers and bunch builders vary. But the principles involving the setup, the bottom forming, and bunch building remain practically the same Bunch builders can be engaged or disengaged from the combination builder at will.

About Filling Bunches. The weave room determines the length of yarn needed in the bunch, as well as the position of the bunch on the quill. Any departure from the weave room specifications will result in operating difficulties at the loom.

A bunch which is out of position on the quill will foul the filling feeler until it cannot indicate a transfer, and usually causes a broken pick. The purpose of the feeler is thereby defeated.

A good rule of thumb some plants follow in determining the bunch length (yardage) is to allow for three picks and then add three or four yards as a safety factor. The bunch builder may or may not be adjustable to very close lengths, and in case of doubt the bunch length should always be increased. Doing so increases thread waste, but it protects weaving quality and efficiency.

Patroling is necessary to insure correct bunching. In one mill equipped with automatic looms, the doffers place a newly formed bunch on the head of each frame twice a week. The section hand, who is familiar with weave room requirements, carefully checks not only the height of the bunch, but the yardage in the bunch as well.

Gin Damage to Cotton Retarding Its Progress -- Ruffin

"THE SPINNING industry can much better justify research to improve nep count and spinning performance on cotton if it has not been run through overheated gins and lint cleaners, which improve the appearance and grade under present methods of designating standards, but which make it more neppy and make more short fiber," declared William H. Ruffin, president of Erwin Mills, Inc., during a recent National Cotton Council seminar at Cleveland in the Mississippi Delta.

"Short fibers produce excessive ends down in spinning," Mr. Ruffin continued. "We must overcome lower quality in nep count and defects resulting from excessive ends down in the mills."

Mr. Ruffin

Must Improve Quality. "Good authorities hold that the cotton grading and staple standards have been virtually obsoleted by these new methods of harvesting and ginning. This problem will increase as long as cotton goes into the loan by having its grade improved by existing standards but made inferior by the new methods. Here we have research by one segment of the industry off-setting that being done by other segments—in other words the growers and seed breeders and the spinners and finishers.

"The reason is obvious—the farmer gets more for his cotton, and no one expects him to do otherwise; but the result is again making cotton less competitive with synthetics which are free of neps and have uniform staple lengths.

"The synthetic manufacturers are spending much more for research, and it is freely predicted that research on viscose will soon produce a fiber which can be laundered like cotton.

"This problem is an economic one and we should not do major research just to hold our own or retard a downward trend. We should address our efforts to increasing cotton consumption by improving the quality of all products made of cotton.

"Progress will continue in the broad field of applying chemical finishes to fabrics, but the rate of progress is being slowed by the damage to the fiber by these methods of harvesting and ginning. We spinners and finishers need to have the staple delivered to the mills in as near its natural condition as possible. This means that some research is necessary to accomplish this first objective."

Increasing Public Acceptance Essential. "Will a revision of buying standards be made in time to check this negative influence or will it be too little and too late to

save serious damage to cotton's largest remaining markets? Millions are being spent on new and improved processing machinery in the mills and finishing plants to reduce costs and improve quality. If these expenditures are to continue, the products must be increasing public acceptance on price, quality, and performance.

"There's no question but that a large majority in the textile manufacturing field share the enthusiasm over cotton, its versatility, its consumer appeal, and the hopes for future gains through more dynamic promotion."

Planning the "Disciplined Fabrics" Program

The research approach governs both manufacturing and merchandising techniques at Maine's five-mill Bates Manufacturing Company. Key tools used by the Bates research team are full-scale equipment in the lab and service testing. This is a description of the approach used in developing the "Disciplined" fabrics.

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SEEKING to evaluate the methods available for enhancing the performance properties of its fine combed staple cotton fabrics at the beginning of its three-year development programs for "Disciplined" cottons, the Bates Manufacturing Company's research department concluded that "performance" in terms of users' needs and desires was a complex thing. Satisfaction of these interacting and sometime subtle requirements had to include more than mere application of anticrease finishes, then beginning to be the order of the day.

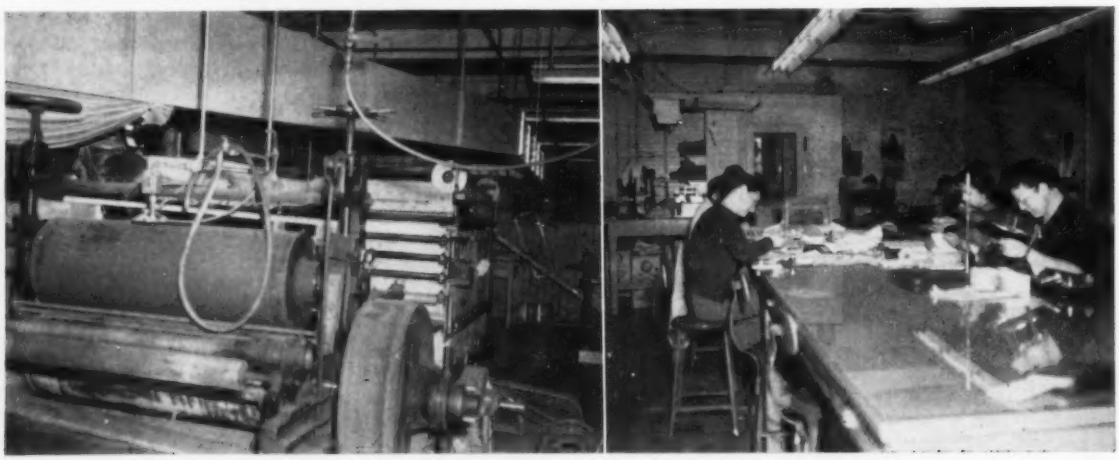
From controlled service and preference tests of extensive series of fabric and finish variations, performance targets were set up for such factors as wrinkle recovery, area and directional stability, ease of cleaning, drying and ironing, levels of strength and abrasion resistance, and balance of absorbency and adsorbency. Also included were such items as resistance to mildew and to attack by perspiration and deodorants. Durability standards were established for all factors according to realistic service conditions rather than by arbitrary laboratory procedures.

Separate studies were made for each general type of fabric to be included in the Bates "Disciplined" line according to the type of garment it was intended for, its expected service condition and life, and in turn what balance of features best suited each case. This entailed separate design and processing techniques, since no universal system was found which fully met all performance targets in each specific case.

The entire program followed these general ground rules:

1. The program was to be long range and continuing rather than just a search for quick answers, and from the beginning planned to provide improvements even after production for sale was initiated. In other words, nothing was to become "standard" except change for improvement as science dis-

DEVELOPMENT OF FINISHES was carried out on this plant scale padding and curing range (left), rather than on a lab machine, to achieve accurate reproduction. Service testing rather than lab testing is favored in selecting construction and finish and their control tolerances. These members of research lab staff (right) are wearing "Disciplined" fabrics under observation.



closed new possibilities.

2. Though the development work would be done in the research labs, the Bates people would not "hang their hats" on numerical lab results. Rather, by use of full scale samples, making possible realistic evaluations, the proof of any idea or suggested improvement was to be in the wearing.

3. Before full scale production and marketing activities were to be started, service testing was to be performed both by the "control" group of 18 women members of the research department staff as well as by general interest groups of office staff and friends.

4. Production controls and supervision were to be maintained by the development group who knew "the whole score from fiber to rag bag," and not left to split departmental responsibilities.

Fabric Construction. While the Bates program has not required any unique yarn and fabric manufacturing techniques, many fabric styles had to be rebalanced and designed to suit the newly defined performance objectives and still satisfy artistic factors such as drape and surface appearance.

At the outset it was revealed by critical survey that there was not a staple construction on the market or in Bates' own mill schedules that was ideally suited to respond fully to the chemical processing and come out with a suitable balance of physical characteristics. The chemists called for a new balance of strength and elastic characteristics to give them the chance to bring about maximum improvement. The design engineers worked at the answers.

As example, the standard 136 x 60 broadcloth was found deficient in the filling strength and tear characteristics required to accept a finish providing good resilience and still take the strains of buttonholes, pocket, and underarm detail. Standard 80 squares had similar inadequacies; a 78 x 84 with altered twists and take-ups was picked from a long series reflecting many variations.

Finishing. The tendency at that time was for the average cotton finisher to choose, after preliminary screening, one of the several offered brands of finishing resins and pretty much stick to it until persuaded to change. Bates chemists took an independent stand, did not allow any commitments in either production or advertising to any particular product, and played the field. Combinations were carefully balanced for each job and altered as indicated by experience and newly revealed knowledge. An independent technology evolved which cannot be described in terms of a single procedure; the finishing routine for a heavy sportswear fabric is considerably different from that for a sheer.

One traditional problem in the CRF* field is the finishing of whites, which are plagued by the nitrogenous nature of most commonly used resins, causing yellowing and/or tendering due to chlorine retention. The consuming public expects "whites" to be able to stand bleaching. Bates did not compromise nor attempt to establish any "presumably safe" level of chlorine retention where differences between resins were only those of degree, but kept white out of the "Disciplined" fabrics line until a nonnitrogenous system was discovered (outside the textile chemical industry) which was nonchlorine retentive.

Another problem common to resin finishing was the conflicting requirements of resilient muss-resistance on the one hand and the permanent crispness wanted on tissues and sheers. A method was specifically developed to reconcile these seemingly opposite objectives. While the results may not be quite as bouncy in a hand or laboratory test as some of the more lively soft-finished goods, there was, from the consumer's point of view, a significant improvement which made crisp sheers practical for every day and repeated wear.

Another conflict requiring balancing was that of absorbency vs muss-resistance. Bates' research efforts never lost sight of the fact that the wearer's comfort was just as important as the appearance and "easy to care for" features of a garment. Once again the test was in the wearing; the laboratory tests were used only as controls

CREASE RECOVERY is controlled by standard Monsanto method. Unlike the single "anti-crease" designation of the early days, the "Disciplined" program includes at least twelve performance criteria.

*Crease resistant finishing.

once the targets were established.

Service Testing. As noted, the proof was in the wearing. Subjective reactions were obtained as well as the more technical factors of length of service between washings, washing and ironing times, retention of resilience and dimensions, and total usable life.

Stitching characteristics, hemming and seaming conformity, drape, and styles of tailoring were included in the studies.

Control. About half the work in the Bates physical testing laboratory is devoted to control of the finishing process. Even with the standardization of concentrations, times, temperatures, etc., other details are kept under constant surveillance:

1. Physical and chemical state of the goods is checked before application of finish.
2. Resistance to both external and internal abrasion is checked by the Stoll flex tester and other procedures worked out by Bates personnel. (The damaging effect of improperly applied resin residues and crystals in and around fibers, which under flexing motion act like internal abrasive on a micro scale, is the reason for the mysterious sudden failures of many CRF materials which may pass all the usual laboratory tests.)
3. Tear strength is checked both under impact or "shock" techniques with the Elmendorf tear tester, as well as by the slower stress loading of the Scott. Garments are subject to both types, as in the case of catching a pocket (shock), or underarm strains (slow).
4. Crease recovery of the finished fabric is done with the Monsanto crease recovery tester, with standards set for each type of fabric as determined by previous service testing.
5. Residual shrinkage is checked by the CCC-T-191b method. Two per cent is the guaranteed maximum, but control levels are set much closer.
6. Ticketing as a "Disciplined Fabric" is restricted to those goods which meet the standards.

Merchandising. The advertising and promotional campaigns are largely educational rather than "shouting of claims." They are directed primarily to matters of consumer interest. Their purpose is to establish the significance of the term "Disciplined" as a symbol of breeding and character in fabrics.

Basically the campaigns seek to establish the concept of "total" behavior of the fabrics, explaining in terms of end-use advantage such technical factors as "stability," "resilience," and "absorbency," and stressing the fine detail necessary to accomplish these in proper balance. The slogan "Just Hang It Up" sounds rather flip, but it expresses pretty well the casual minimum care required for these fabrics in service.

And Now Stretch Yarns for Woven and Tufted Carpets

BY NORMAN C. ARMITAGE
Vice-President
Deering Milliken Research Corp.

ABSTRACT*

THE USE OF stretch or bulked yarns in floor coverings is so interesting and so challenging that we are devoting a very considerable effort to rugs and carpets of Agilon yarn, and we have worked with several manufacturers, both weavers and tufters, to produce radically new floor coverings for the American market.

Agilon in Tufted Carpets. Agilon yarns, ranging from 2,000 to 6,000 total denier (138 to 46 yards per ounce), have been processed into both woven and tufted carpets, and a wide variety of new and unique surface interest effects have been obtained. The nature and degree of the surface effect can be varied by changes in the technique of producing the Agilon yarn; and in tufted carpets, for example, the frequency of tufts and the pile height can also be varied to produce different effects.

When using a 5/32-inch gauge tufting machine, excellent results have been obtained with yarns of 3,000 to 5,000 total denier at 8 to 10 stitches per inch and with a pile height of ½ to 9/16 inch; on 3/16-inch gauge machines, yarns in the range of 4,000 to 6,000 total denier at 7 to 9 stitches per inch and with about the same pile height have given a most satisfactory product.

The continuous filament nature of these yarns gives a considerable improvement in ease of handling during weaving or tufting, as compared with spun yarns. The absence of loose fiber ends, slubs, and weak spots facilitates the manufacture of the carpet and creel breaks and other machine stops for yarn defects are virtually eliminated.

Dyeing and Finishing Stretch-Yarn Carpets. In the usual sequence, the Agilon yarn is put into the carpet before being developed, and the carpet looks rather lean and hungry as it comes from the loom or tufting machine. Upon scouring or dyeing during finishing, the yarns bulk and increase in volume to produce a firm and attractive carpet surface.

In carpets, Agilon yarns have high crush resistance, long wear life, good resilient properties, ease of cleaning, and complete resistance to mildew or insect damage. Since the yarns are essentially continuous filament yarns, there is a notable lack of fuzzing or pilling.

Where piece dyeing techniques are used to finish the carpet, it should be entered into the kettle and the reel started in motion with the water at about room temperature. The temperature is then in-

*From a paper presented by Dr. Armitage at a meeting of the American Association for Textile Technology, Inc.

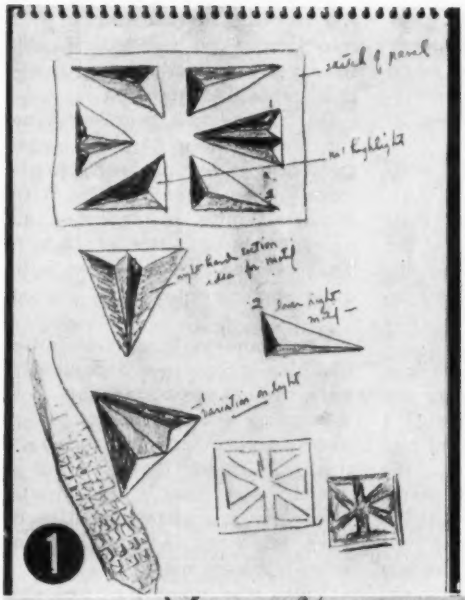
creased to 160 F over a period of approximately twenty minutes, and the contraction and bulking of the yarns are uniform and practically complete.

Where Type 6 nylon is used, one precaution is needed to insure level dyeing. The dyes should be added to the liquor when it is relatively cool (about 80 to 90 F) and the carpet should be allowed to work in this dye liquor for about fifteen minutes before the temperature is raised. The temperature should be raised to about 160 F at a rate of rise of about 4° per minute. The rate of rise is then reduced so that the dye liquor will reach the boil in about one hour from the start of the operation.

For Type 66 nylon the ordinary dyeing procedures already in use in the carpet industry are readily adaptable to carpets of Agilon nylon yarns.

Skein Dyeing. For mills doing skein dyeing of yarn, the requirements are essentially the same as when using spun yarns, but with a couple of exceptions. First, for Type 6 nylon, the dyes must be added to the dye liquor at a relatively low temperature (80 to 90 F) and the same working period as has just been described must be followed to insure level dyeing. Upon dyeing, Agilon yarns will contract to about 60% of their length as skeined, and there must be a relatively free wind of the skein to allow even contraction.

"Birth of a Tie Design"

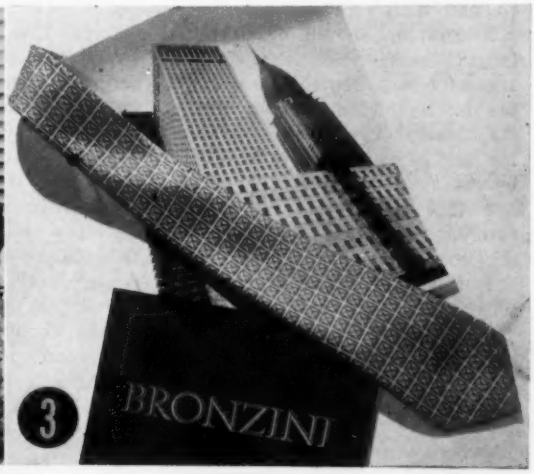


A PAGE from the sketch pad of W. D. Blackwell, designer of men's apparel and president of Bronzini Ltd., is reproduced here **(Photo 1)** to show the evolution of a necktie design from the stainless steel wall panels of Manhattan's newest skyscraper, the 45-story Socony Mobil Building. Sketches represent the pyramid-like-design elements which are embossed in the outer metal panels of the structure, and their final adaptation to a necktie.

Field sketches of a design are translated into a pattern by tedious repetition of the minute design element, reduced to 1/400th of its original size in the stainless steel walls of the Socony Mobil Building. In **Photo 2** Mr. Blackwell explains to Gretchen Smith, a member of the Bronzini design staff, the effect he is seeking.

A picture of the building serves as a fitting background **(Photo 3)** for the silk necktie which takes its over-all pattern from the metal wall of the building.

This is said to be the first time Bronzini has found design inspiration in modern architecture, abandoning its traditional practice of using only the artifacts and architecture of ancient civilizations.



How to Get Better Picker Lap Quality

BY Z. SZALOKI
Assistant Director of Research
Whitin Machine Works

ABSTRACT*

THE FIRST machine in the cotton mill which delivers a continuous sheet of cotton and which has a built-in device to control the weight of the delivered stock per unit length is the picker. However, the picker lap cannot be described as completely regular or uniform.

In early industry practice, when three draw frames and three roving frames were used, with 864 doublings altogether with one end up at the spinning frame or with 1728 doublings with two ends up, the irregularity in lap thickness could be as high as 9% and not be great enough to have any appreciable influence on the regularity of the yarn.

With two passages of drawing and one roving operation, the number of the doublings has been reduced to 64 or 128, depending on whether double roving is creeled in spinning. This reduction of doublings has tremendously increased the importance of the evenness of the picker laps, slivers, and roving.

What Is a Good Picker Lap? A good picker lap has to satisfy a number of conditions. The most important ones are:

1. The lap should contain well blended and opened stock.
2. The stock should be well cleaned, with a low nep count.
3. The lap should be even in length and cross section. To achieve a high degree of evenness, the density of the stock should be the same in every section of the lap, and of course the tufts should be evenly distributed.
4. The lap should be a well formed roll, with straight sides and good selvages.
5. It should unroll at the card without licking or splitting.

Good Operating Practices. The irregularity of a picker lap is basically determined by the density of the lap and degree of opening achieved, plus cyclically repeated deficiencies caused by the machine itself. Good blending and high degree of opening result in even density and small tufts of cotton, assuring an even distribution of the stock.

For these reasons, a minimum of two blending feeders should be used per picker. The blending feeders should be followed of course by modern and efficient opening machinery.

To illustrate the effect of opening on the regularity of the picker lap, a series of tests were made using 1½" staple, 1½-denier viscose through a complete opening and picking line. The line consisted of blending feeders with Axi-Feed pre-opener, and an Axi-Flo opener followed by a two-beater picker. The grid bars of the Axi-Flo were closed to avoid unnecessary fiber loss, since the purpose of using this machine was blending and opening only.

The lap made on this line was analyzed by the Uster tester, and the resulting diagram indicated a very even lap. The blending and opening were excellent, and the equipment was properly adjusted.

As a next step, the Axi-Flo opener was by-passed and the stock from the blending feeders and Axi-Feed went directly to the pickers. The evenness of the lap was still good, but not as good as before, because of the lesser degree of opening.

Finally, all opening machines were by-passed and the stock was fed from the blending feeders straight to the picker. Lack of blending and opening caused the irregularity of the lap to increase considerably.

Practical investigation and theoretical considerations show that with good opening, and small cotton tufts, a coefficient of variation of 2% can be obtained. With evenly distributed tufts of 0.3 grains, the variation would be in the range of 3 - 4%. Irregularities higher than this are usually the fault of the machine.

Trash content has no appreciable influence on the evenness of the lap. On the other hand, low trash content is required for a good quality lap. With good cleaning, about two-thirds of the trash present in the original baled stock will be extracted. The remaining trash content in the lap will vary depending on the grade of cotton used.

Unnecessarily long opening lines and resulting overbeating of the cotton must be avoided. Higher speeds and production rates usually increase the nep count.

During the last year we have run more than a hundred large-scale tests in our research department and in different mills. With the new Whitin line described, an average nep reduction of 10-30% was obtained in comparison with other opening equipment.

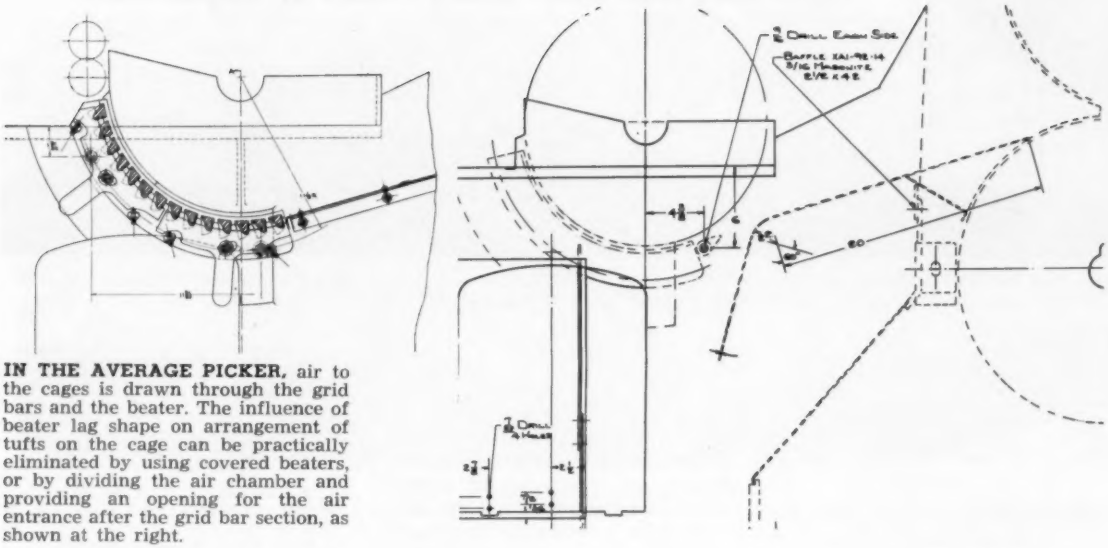
Lap Evenness. In addition to the qualities of openness and cleanliness, the lap has to be even. It is interesting to analyze the effect of unevenness in the lap on yarn quality. To see the effect of a "good" and "bad" lap on the regularity and count variation of yarn, one even and one very uneven lap were made.

Both laps were processed through the card, two processes of drawing, one passage of roving, and spun single into 30s. As anticipated, no appreciable difference was found in the evenness of the yarn. This is not surprising, since the picker introduces long-term variations. But because of wide range of middle- and long-term variations, the variation in count was very much higher in the yarn originating in the so-called "bad" lap, as shown below:

	Average Evenness	Count Variation
Yarn from even lap	91.2 - 98.6%	29s - 29.6s
Yarn from uneven lap	79.5 - 96.6%	28.3s - 32. 8s

The results of these tests con-

*From a paper presented by Dr. Szaloki at a meeting of the Textile Division, American Society for Quality Control.



IN THE AVERAGE PICKER, air to the cages is drawn through the grid bars and the beater. The influence of beater lag shape on arrangement of tufts on the cage can be practically eliminated by using covered beaters, or by dividing the air chamber and providing an opening for the air entrance after the grid bar section, as shown at the right.

firmed that the lap irregularity influences the yarn regularity only on relatively long lengths of several thousand yards, in other words, between bobbins.

A lap uniform in weight per unit length can be produced only when the picker delivers a lap uniform in volume. Ideally, extended feed lattices placed before the blending feeders would assure good blending and even feed to the blenders. In practice, however, it might be difficult to secure equal deposit of stock from each bale by the operators.

When waste is fed into the stock, it is necessary to feed it evenly, preferably onto the mixing feed table of the blending feeders. The control mechanism should be set so that the blenders are stopped the shortest possible time. All opening machines should be set for optimum cleaning and opening.

A hopper feeder should be the first machine in the picker line, because it feeds evenly and at the same time delivers relatively small tufts.

Machine Improvements for Better Picker Lap Quality. Close examination of a lap shows that the trash is normally distributed at random throughout the whole cross section of the lap. Recent research has accomplished the direction and concentration of the impurities on the top layer of the lap, from which they can be removed more effectively by the next cleaning element. Further research is going on with the objective of removing the trash at the time when it is directed towards the outer layer of the lap.

By providing an even feed from the proceeding hopper feeder and a well adjusted evener motion a good lap can be produced. The importance of an even feed to the finisher section of the picker can not be over-emphasized. Then, too, the evener should perform in a satisfactory manner. It is often mentioned that the present evener motion—which was originally introduced in the late 80's—is too slow in its response and should be replaced by a more sensitive mechanism. This could be done, but it must be borne in mind that the shape and the placement of the controlling pedals are the determining factor.

If the pedal contacts the feed roll either at the nose or close to it the evener has to react quickly, otherwise the stock will have been taken by the beater before the required speed regulation occurs. If the contact between pedal and feed roll is at an advanced point, the opposite can happen, for the speed changes before the sheet arrives at the feeding point. Proper timing is most important, whether the present type of cone and belt evener, an electrical, or some other type of evener motion is considered.

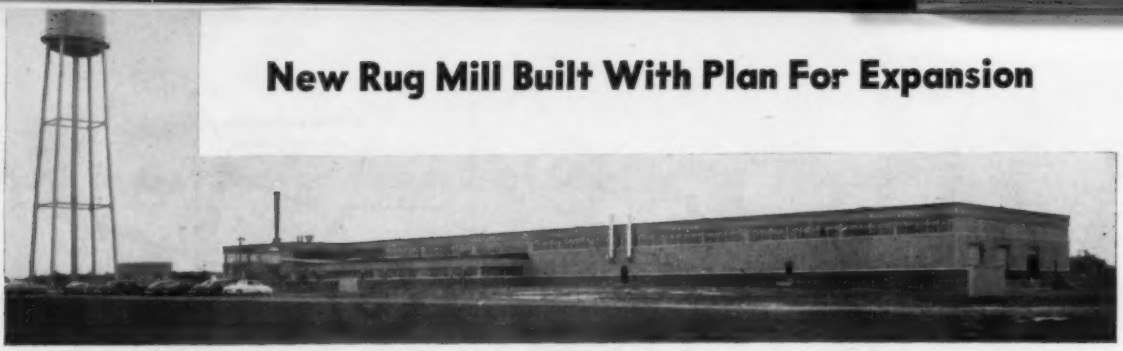
The cross-wise regularity of a picker lap depends on the shape of the air chamber and on the design of the beater. Since on the average picker, as shown in the accompanying drawing, the air to the cages is drawn through the grid bars and the beater, the beater lags can influence the disposition of the tufts on the cage. With proper fan speed and correctly shaped beater lags, this influence can be reduced. It can be practically eliminated by using covered beaters or by dividing the air chamber and providing an opening for the air entrance after the grid bar section, as shown in the drawing.

The creation of a dead air chamber also improves the cleaning. How the stock is divided between the top and bottom cage is very important in making a well built, nonsplitting lap.

A good lap should be well formed and have straight sides and good selvages. To achieve this goal, besides the proper working of the air chamber and the cages, a definite draft is necessary between the calender section and the fluted rolls on which the lap is built. This draft should be approximately 3-5%. If the draft is too high, there is a tendency for the lap to become continuously lighter.

Further improvement of regularity is achieved by running the picker continuously. An automatic picker doffer gives the same evenness throughout the lap length.

New Rug Mill Built With Plan For Expansion



NEW VELVET PLANT of Hightstown Rug Co. has been built with an eye to future expansion. It includes steel wall panels which can be unbolted and advanced for use on added units. Mill is on a 45-acre tract.

STAFF PREPARED

EXCLUSIVE

AS CAREFULLY as management will lay plans for equipment, flow of materials, and materials handling, as they fit into a new building at the time of construction, the mill can never know how long the design will be "modern."

Diversification, new equipment, and radical changes in market demand can later dictate modifications that will wipe out engineered advantages in short order. A look at some New England mills which have "grown like Topsy" over a 50- or 75-year period amply illustrates this.

The Hightstown Rug Co. of Hightstown, N. J., has just put into operation a new velvet mill containing features optimum to their current mode of production, many of which are new to rug mill planning. But most important, they have provided an efficient all-over plan for future expansion:

The Plan

Economical future expansion has been considered in the construction of Hightstown Rug Company's new velvet plant. The single-story unit is 60,000 square feet in area, has standard Robertson steel walls and roof, and a monolithic concrete slab floor

Adjacent to this structure is an administration building. Both units were planned for simplicity so that no elaborate construction was involved. The plant is situated on a 45-acre parcel of land — the first provision for expanding facilities at some future time.

The "Domino" System. The basic design on which future growth will be planned involves the addition of six more similar plant units (in domino fashion) to the existing one. Three units will be joined "long-side by long-side," faced by three additional units joined similarly and separated by a seventh unit with its long side adjacent to the short sides of the six units noted.

The six units are designed to be production plants; the separator unit is a storage and shipping warehouse. Each of the six units accepts raw materials (yarn) at its own outside end, and, forming six straight-line operations, delivers to the warehouse.

The completed group will measure about 300 x 1000 feet. This plan is illustrated in an accompanying sketch.

Adding. Current planning specifies all added units to be of the same general construction. Efficiency of the additions is based on several factors:

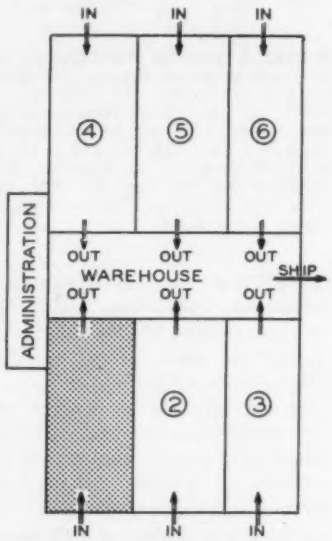
1. The steel walls are composed of panels which may be unbolted and advanced for use as walls for added units.

2. The boiler house is of sufficient size to be fitted with equipment required to service all 7 units.

3. With normal additions of electrical power leads, the present power supply will properly service all seven units.

The First Unit

The first step in the long-range plan involved use of the 100 x 600 foot area as a velvet carpet plant



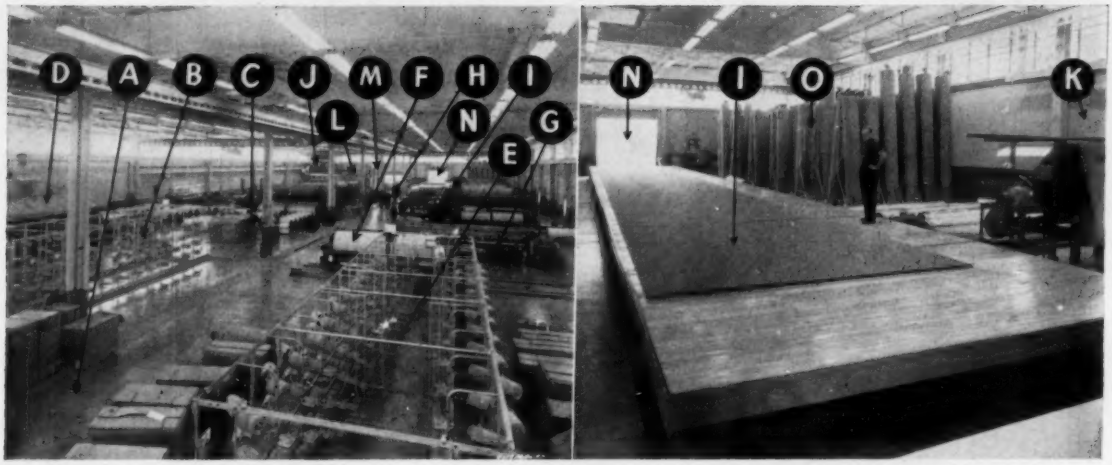
FUTURE GROWTH is based on the "domino" system. Shaded area indicates velvet mill; 2, 3, 4, 5, and 6 indicate production additions planned with a common warehouse for collection, storage, and shipping. Note flow of all mills directed from outside in.

capable of turning out about a million square yards a year.

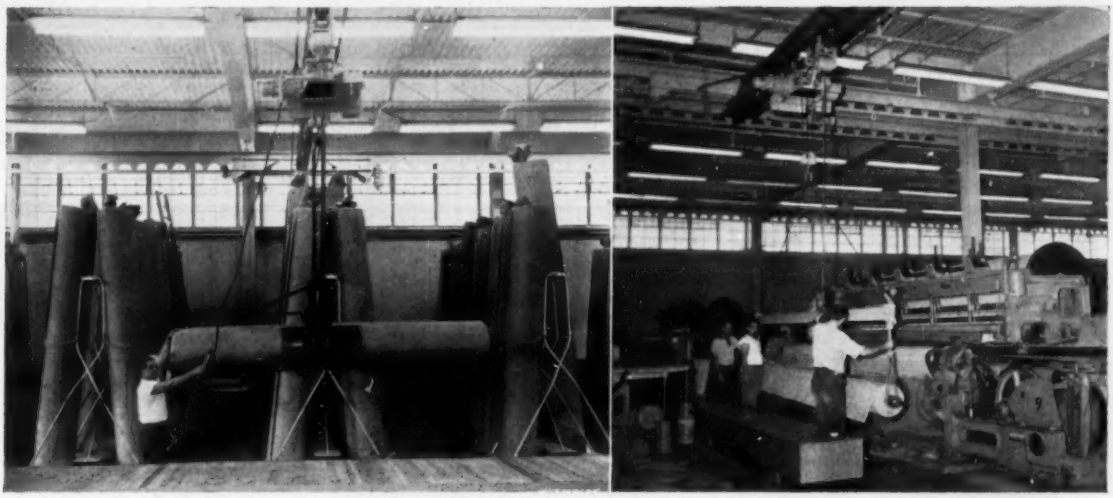
To do this, the plant was equipped with a large-package creel and beamer for jute and cotton warps; and a creel, warping mill, and beamer for wool warps.

All velvet work requires 3-beam weaving. Elevated size cooking and storage tanks feed a 13-can slasher (constructed similarly to silk system slasher) to service the cotton and jute beamers.

Weaving facilities include two 9-foot, six 12-foot, and three 15-foot velvet looms. A number of 27-inch looms are to be installed. An inspection table, shear, back-sizer and dryer, two mending and inspection frames, a baling station, and vertical storage racks for baled rugs service the loom complement.



MATERIALS FLOW IN A LINE. Yarn (a) enters mill, is stored near creels; creel for cotton and jute (b) feeds beamer (c), then slasher (d); creel for wool (e) feeds warper (f) then beamer (g). Both (d) and (g) service loom area (h); rolls of carpet are inspected (i), sheared (j), mended and inspected (k), sheared again (j), back-sized (l), dried (m), baled, and either shipped through door (n) or stored (o).



HANDLING SYSTEM is based on an overhead tramrail and crane similar to that used in a small steel plant. Rolls of carpet in process are thus moved by beam and hook attachment (right), baled rolls by mill-built cradle permitting upending (left).

Flow of Materials. With rare exceptions, yarns produced in other Hightstown mills enter one end of the 600-foot building and leave at the other, proceeding from end to end with no cut-backs or cross-overs.

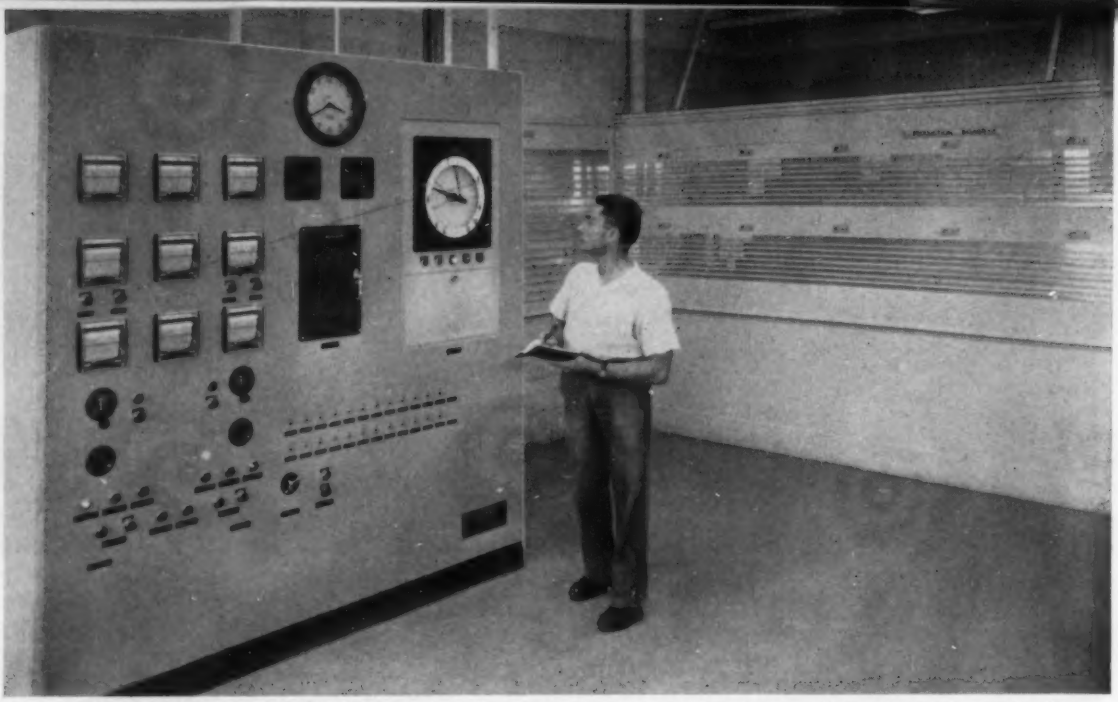
Yarn in standard-size containers is stored near the beamer creels. Woolen yarn is warped and beamed in one line; jute and cotton are beamed in a parallel line, and slashed onto loom beams in still a third parallel line.

Loom beams are moved to a centrally located loom area, stored two per loom in a space right at the loom, entered, woven, and the rugs doffed and moved to an inspection table at the end of the building. This table allows the entire roll of goods to be laid out at once.

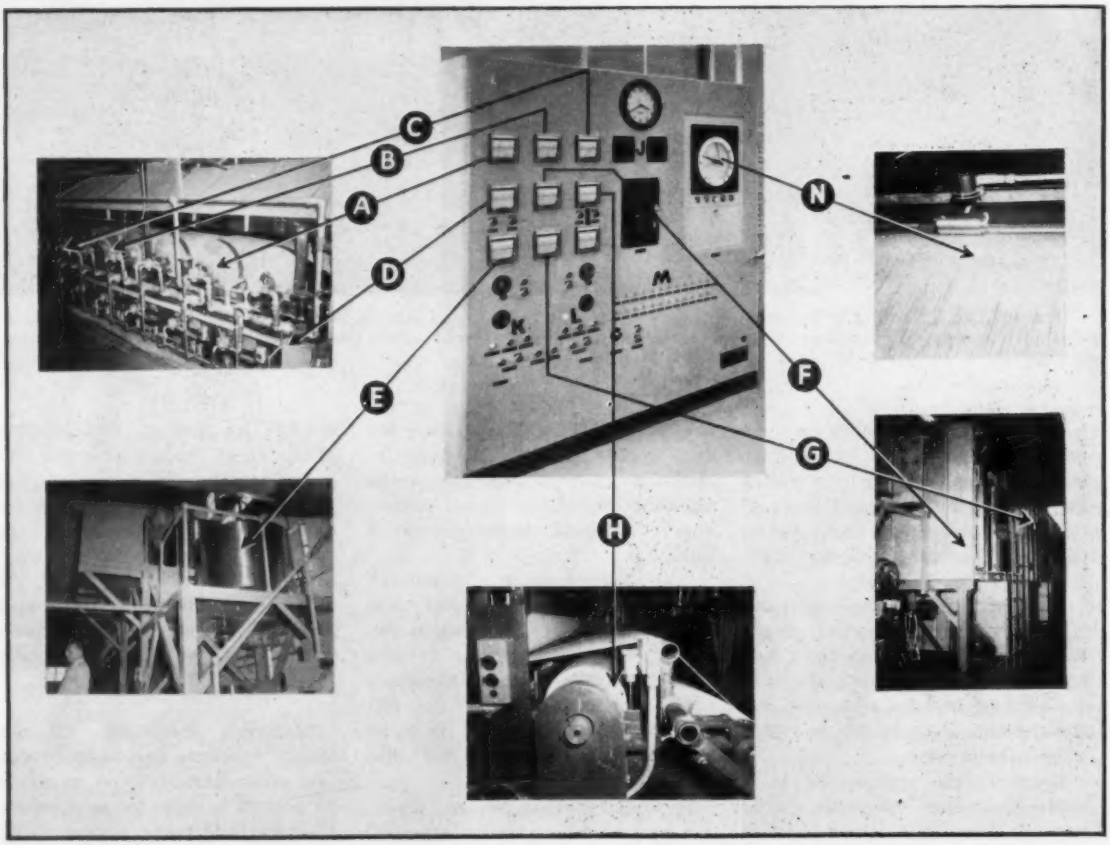
This pre-shearing inspection, performed within one and one-half hours of loom doffing, is followed by the shearing process which parallels the inspection table. Mending and inspection follows (by same operator on same machine). Frames for this also parallel inspection table.

A final shearing follows. Goods are prepared for this in three-roll batches by sewing. The delivery of the shear feeds a size pan (fed by an elevated cooker and storage tank) which in turn feeds a gas fired dryer. Final shearing, size pan, and dryer are in a straight line, and are run continuously. The rugs are then separated and baled and either shipped or stored vertically in self-supporting racks located against the "out" wall.

Materials Handling. All materials handling (goods in process and other materials) in excess of 50 pounds is done by an overhead tramway and crane system with a



CENTRAL CONTROL ROOM allows pre-setting and provides continuous recording of certain production variables. Instrument panel contains: temperature control of three slasher stages (a), (b), and (c), slasher size trough temperature (d), slasher size cooker temperature (e), dryer temperature for two stages (f) and (g), back-sizer size trough temperature (h), back-sizer size cooker temperature (i), blanks for future instrumentation (j), signal light stage indicators for slasher size cooker (k), and back-sizer size cooker (l) independent electrical supply switches for all instruments (m), and recorder-controller for slasher speed based on continuous moisture content instrument at slasher delivery (n). Production control visual panel and finished goods inventory panel (rear) are based on tear-off ticket system. Stubs are placed on board in vertical order as roll passes through operations.



capacity of 4000 pounds.

The system, similar to that used in a small steel plant, is based on "I" beams running the length of the plant. At right angles to these rails and running on the lengthwise "I" beams, is a cross beam.

Riding on the cross beam, and movable across its width is a crane, its vertical lifting force activated by push button. There are two such parallel systems running the length of the building—one servicing each half of the plant.

The two cranes can be married so that continuous movement completely across the building can be effected.

Special attachments are fixed to the crane, depending on the type of material being moved. For handling rolls of carpet in process, the rolls are fitted with steel center tubes and carried by a beam and hook arrangement fastened to the tube. Loom beams are handled similarly but the crane is attached to the beam gudgeons instead of to an inserted tube.

Baled rugs are handled by a mill-devised cradle crane attachment which permits both lifting and up-ending. The average full loom beam weighs 4000 to 4500 pounds.

Control. Certain variables of slashing, back-sizing, and drying are pre-set and recorded by instrumentation on a single panel board. Also, visual production and inventory boards are maintained. All of these controls are housed in a single room in the administration building.

The instrumentation is similar to that found in oil refineries or in chemical process plants. Instruments are pre-set for the particular variable by an operator in the control room, according to predetermined conditions for the particular goods in process. The cycle is activated either from the control room or the production floor. This ends the control room operator's involvement with the production operation.

The instrument panel is equipped with blanks for future installations and independent electrical supply switches for each instrument.

Slashing and slasher size preparation are the most comprehensively controlled operations. Temperature is pre-set and recorded for three stages of can drying: cans 1 through 6, cans 7 through 10, and cans 11 through 13.

Temperatures are pre-set either for jute or cotton slashing; recording is done on a 30-day strip chart. The size formula is made up manually in one of two elevated tanks near the size box of the slasher, cooked, then diverted to the storage tanks.

Cooking temperature, however, is pre-set and recorded by instrumentation. Duplicate instruments are at the production floor but control is activated only from the central room. From storage tank, size is fed to size box of slasher to a level which is kept constant by an instrument in the box itself.

The temperature in the size box is also pre-set and recorded in the control room. A Moistograph at the slasher delivery senses the amount of moisture in the slashed warp sheet and registers on a recorder-controller on a circular one-day chart.

The recorder-controller is preset to a prescribed moisture content and the instrument automatically controls the speed of the slasher to yield the correct moisture content. An indicator hand on the recorder-controller also registers an instantaneous measure of moisture content. This control is accurate to within ± two per cent, eliminating a common mill tendency to overdry in order to "play safe." The slashing cycle is energized by the control room operator through activation of an air valve.

Back-sizing, a size pan range hooked in tandem to the shear and used after final shearing, is controlled on the instrument panel in a similar way to the size box of the slasher. That is, cooking temperature and pan temperature are preset and recorded on instrument panels in the control room. Light indicators on the instrument panel show which stage of operation the size applications are in: cooking, sizing, or inactive.

The dryer controls consist of preset and recorded temperatures for each of the two-stage temperature levels (cooking and size box) in the unit. Moisture content is not controlled by instrumentation on the dryer, as variable speeds are required for various rug styles.

The visual control board for production is separate from instrumentation. It reflects the location of each roll of carpeting in production at any time. The system depends on a tear-off ticket attached to each roll of woven carpet. As the rug flows through the sequence of operations, the stub for the particular operation is torn off and posted on the production control board in vertical order; progress is thus charted on the board and rolls in process are grouped according to loom number.

Finished goods held in storage are indicated on a second control board; ticket stubs are filed on this board by pattern number and width.

What Mills Can Do to Increase Sale of Wool Clothes

SEVEN steps by which woolen and worsted manufacturers could increase the demand for wool clothing were outlined by Dr. Ernest Dichter of the Institute for Motivational Research during the 91st annual meeting of the National Association of Wool Manufacturers. Here they are:

1. **Stethoscope Social Change:** The dynamic American society is constantly undergoing change. These trends affect the wool market and its manufactured products. Develop specific programs of measuring and understanding changes in our social and cultural framework for they are the forerunners of style and clothing changes.

2. **Fill Unsatisfied Needs:** The consumer, male as well as female, has many unsatisfied needs. The

industry or manufacturer that X-rays and discovers these wants and satisfies them can chart its own course to increasing product use and prosperity.

3. **Provide Moral Permission:** We are a nation of individuals who seek moral permission for our actions. We follow leaders in clothing as well as in politics. Therefore, create new centers of influence and project real authorities who will influence acceptance of new design in wearing apparel.

4. **Harness the Psychological Drive:** The drive to informality in men's clothing can be turned into an asset for your industry. Research may well prove that this trend is directed towards achievement of greater individuality.

5. **Quicken the Pace of Change:** Break the "old suit complex." Develop new suit association which will make change of clothing a psychological "must" for men. Divest clothing of its utilitarian franchise and give it a psychological franchise.

6. **The Ideal of Men's Clothing:** Do you know what men really want in the way of clothing? What does he dream about? Find out and meet this longing.

7. **Glamorize and Sexualize Men's Clothing:** The strength of women's clothing is its allure, its appeal, its style — in a word it's sex. Tear the shroud from man's body and glamorize him in clothing designed to enhance this basic motivation.

How to Dye High-Bulk Orlon Skeins

KNITTING of high-bulk acrylic yarns has become a major industry, particularly with reference to use of the fabrics for sweaters. The knitter is faced with three possibilities for coloring this product: piece dyeing, tow dyeing, and the more recently developed skein dyeing.

Here is the case for skein dyeing* and an example of a method for doing the job.

Machinery. The Obermaier-Steinen, Hussong, and the Pegg skein dyeing machines are satisfactory with this method, but two equipment modifications are necessary:

1. A double-bar skein rack (conventional with the Obermaier-Steinen machine)
2. A hinged deflection plate.

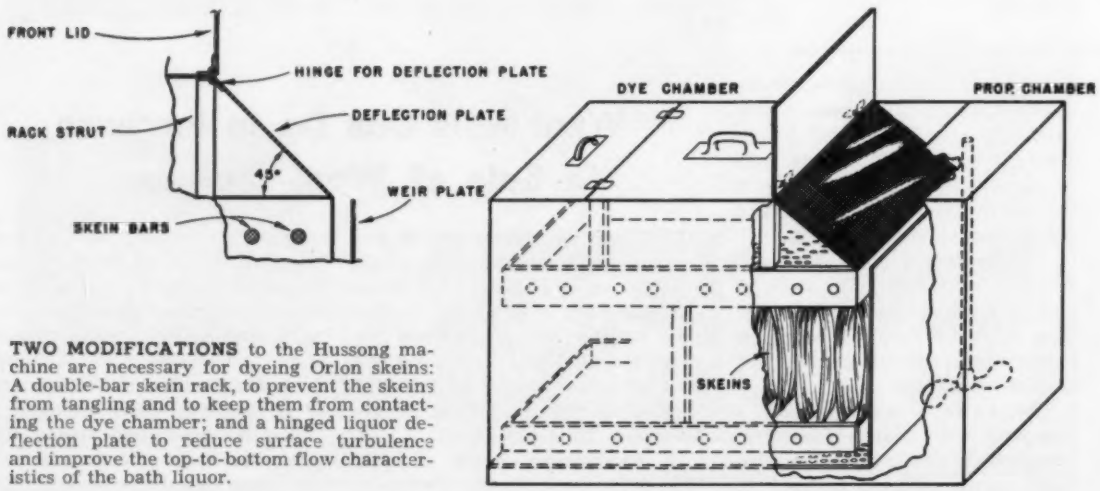
Double-Bar Skein Rack. The double-bar skein rack prevents the skeins from tangling and keeps them from contacting the dye chamber. To do this, the distance between the top and bottom bars must be two inches less than the inside length of a collapsed, fully relaxed skein. This distance is predetermined by relaxing a skein with steam or boiling water prior to loading the machine.

With this clearance, the skeins can move up and down during the forward and reverse flow cycles without contacting the insides of the dye chamber. This tends to minimize distortion and flattening of the yarn. It also allows those portions of the skeins that rest on the bars to be dyed. Without the up and down motion, bar marks (undyed spots) will result.

Hinged Liquor Deflection Plate. The hinged liquor deflection plate reduces surface turbulence and improves the forward (top-to-bottom) flow characteristics of the bath liquor.

During the top-to-bottom flow cycle, the hinged liquor deflection

*Adapted from Bulletin OR-52, "Skein Dyeing of High-Bulk Knitting Yarns of 'Orlon,'" published by the Textile Fibers Department of the Du Pont Co.



TWO MODIFICATIONS to the Hussong machine are necessary for dyeing Orlon skeins: A double-bar skein rack, to prevent the skeins from tangling and to keep them from contacting the dye chamber; and a hinged liquor deflection plate to reduce surface turbulence and improve the top-to-bottom flow characteristics of the bath liquor.

plate remains inclined at a 45° angle. In this position, ahead of the weir, the plate breaks up the turbulence of the moving bath liquor, but apparently does not reduce bath circulation.

By disrupting this turbulence, the deflection plate causes the bath liquor to form a gradient pressure head which gradually decreases toward the rear of the machine. This pressure differential causes the dye liquor to flow uniformly in a vertical downward direction. The flow pattern on an unmodified machine is not directly downward and uniform, but erratic.

During the bottom-to-top (reverse) flow cycle, the hinged liquor deflection plate is automatically raised by the liquor flow. Hence, during the reverse cycle, the flow is the same as that of an unmodified machine.

The entire deflection plate is made of Type 316 stainless steel. Except for the supporting frame and hinges, the plate consists of 50-mesh screen supported by 25-mesh screen.

A Mill Approach to Dyeing Orlon Skeins

A skein dyeing method for Orlon and Acrilan bulked on the Pacific Converter and Turbo Stapler has been developed by Banner Yarn Dyeing Corp., of Brooklyn, N. Y.

The development was designed to widen the possibilities of the use of acrylic fibers in knitted outerwear which previously had been either piece or strip dyed. Characteristic of these original coloring methods (piece and strip dyeing) was the close similarity in base fabric of goods from one manufacturer to another.

The skein dyeing process opens up the chance for knitters to institute their own individual styling resources by the use of multicolor in the same fabric. Another advantage for the knitter lies in the ability to knit to size with dyed yarns.

Banner's thinking in evaluating the skein dyeing method vs tow dyeing includes:

1. Use of dyed tow in American system spinning mills presents a contamination problem.

2. The length of delivery time for dyed tow will eventually present a problem to the knitter.

3. The knitter will always have to take into account the size of his order to get his colors.

4. Tow-dyed knitted goods require scouring and finishing after knitting to remove spinning oils.

The skein-dyed Orlon and Acrilan set-up used by Banner permits single- or half-kettle dye lots with delivery time quoted in terms of a few days; since scouring and finishing are done during dyeing, the knitter merely has to steam the sweaters as a final operation.

The company reports practical dyeing on sizes from 2/15s and up (worsted count), and bulking is said to be equal to or better than piece dyed materials. Costs are competitive with other coloring methods.

Skeins. Before winding the skeins, make sure that there is sufficient depth in the dye chamber to accommodate them. For example, a 54-inch skein needs 18 inches of dye chamber depth; a 72-inch skein needs 23 inches; and a 76-inch skein needs 26 inches.

Loading. Load the skeins snugly on the bars but so that they do not overlap. Each pair of bars is set so that the distance between them is two inches less than the inside length of the skeins after complete shrinkage.

Relaxation and Scouring. With the skeins on the rack out of the bath, set a scouring bath with 1 per cent "Capracyl" Leveling Salt at 200 to 205 F. Stop the circulation, lower the skeins in the bath, and allow them to stand for five minutes.

Since Orlon yarns have low resistance to stretch at the dyeing temperature, it is necessary that they be entirely submerged during relaxation and dyeing. This treatment, in a hot still bath, shrinks and bulks the skeins with a minimum of distortion. Then, start the circulation and scour the skeins for 15 minutes.

After scouring, cool the bath slowly to 120 F. The yarns should not be removed from the hot bath, since they tend to lean-out, become distorted, and lose bulk. Careful handling is necessary throughout the entire scouring and dyeing cycles.

Drop the bath and raise the rack.

Dyeing or Bleaching. Set a fresh bath at 120 F. Add the dye or bleach ingredients. Disperse dyes are used for pastel shades; cationic dyes are used for medium or dark shades; and a sodium chlorite bleach is used for white and for stripping.

Lower the skeins into the bath and start the circulation. Raise the temperature slowly (30 to 40 minutes) to the operating temperature and keep it at this temperature until the proper shade is reached. (For sampling, use small skeins attached to a string so they can be removed one at a time.)

When the dye is exhausted from the bath, cool the bath slowly to 120 F, drop the bath, raise the rack, and remove the skeins.

After-Scour. For medium and dark shades, scour the skeins with 1 per cent Duponol RA at 160 F for 15 minutes. Cool the bath slowly and rinse the yarn.

Finish Application. For hand knitting yarns, apply 1 to 2 per cent of a cationic finish at 120 F from a fresh bath containing 0.5 per cent acetic acid (56 per cent).

For machine knitting yarns, 0.5 per cent to 1 per cent finish is generally the maximum amount that can be applied without weakening the yarn. Singles yarns, particularly, are weakened seriously by fiber slippage caused by excessive amounts of finish. After machine knitting of the dyed yarns, additional finish can be applied to the garments, if desired.

Drying. Extract the water from the skeins and dry them at about 140 F.

Warp Sizing — Article 3*

BY PAUL V. SEYDEL, D. Sc.
Seydel-Woolley & Co.
EXCLUSIVE

Material to be Sized—Rayons

Production of Viscose. Cuprammonium Yarns. Physical Properties of Rayon. Effect of Moisture. Chemical Composition and Properties. Yarn Construction.

In considering the properties of rayon and other synthetic yarns, as far as these properties affect slashing and weaving, we can understand the problem a little better if we know something of how these fibers are produced.

At one time all synthetic yarns produced from cellulose were called "rayon," regardless of the process used to produce them or the character of the end product. There have been four principal methods for processing cellulose so as to form spinnable fibers: the nitrate process, the viscose process, the cuprammonium process, and the acetate process.

The first of these is no longer in use, partly because of the economics involved and partly because superior fibers were produced by the other processes, so for our purposes we need not consider it.

The viscose and cuprammonium processes are means of bringing cellulose into solution chemically, then reprecipitating it to form a cellulose fiber which is fairly near pure cellulose. These fibers are known as "regenerated cellulose" fibers, and are today the only types of fibers which are referred to as "rayon."

"Acetate" fibers are produced from cellulose brought into solution chemically, but when the fiber is precipitated, or "spun," it is precipitated as an acetate ester of cellulose—that is to say, the cellulose molecule has combined with molecules of acetic acid, and this fiber is no longer chemically similar to the original cellulose. This fact has a pronounced effect on its physical and chemical properties.

For instance, the acetate fibers no longer react in the same way as do the cellulose fibers to cotton dyes, and a whole new set of dyes had to be developed to get satisfactory dyeings. Also, the acetate fibers do not hold moisture as do the rayon fibers. And as every woman has found at some time during her life, nail polish remover will dissolve acetate, but will not affect cotton or rayon. It is this great difference between rayon and acetate that led the manufacturers of acetate fibers to drop the designation "rayon," so as to differentiate their yarns in the mind of the public.

Production of Viscose. Viscose, or viscose rayon, is the most common variety of rayon. It is usually produced from wood pulp cellulose, obtained by pulping wood and purifying it until the pulp is practically 100% pure cellulose. This pulp is formed in rolls and cut into sheets like large blotters for ease of handling and storing.

The properties of the finished rayon fiber are very sensitive to even very small variations in the process. Even the pulp must be very carefully prepared. The same kind of tree is used all the time by any one manufacturer, and the trees used are close to the same age when cut. The pulp cellulose is essentially "alpha cellulose," which is the important part for fiber formation, plus a small proportion of hemicelluloses, which are quite soluble in alkali and are usually removed in processing. The alpha cellulose content must meet quite rigid specifications from batch to batch.

These sheets of pulp are soaked for approximately an hour in caustic soda solution, after which the excess caustic is pressed out and the sheets are shredded to the form of "crumbs." The crumbs go through an aging period, during which the caustic soda is continuing to react slowly, forming alkali cellulose.

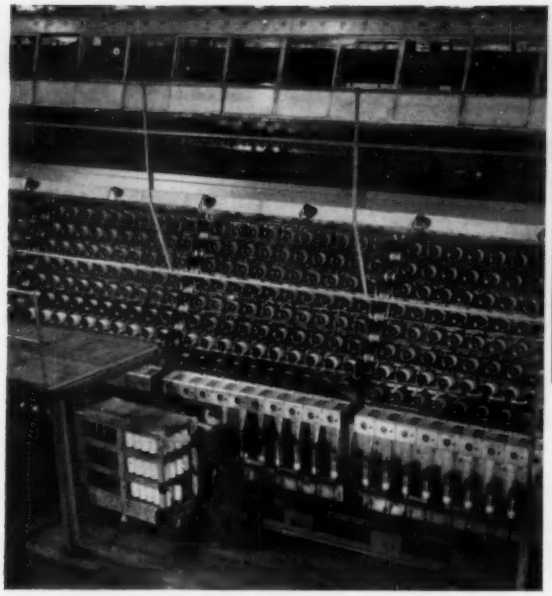
The alkali cellulose crumbs are then treated with carbon disulfide, a rather obnoxious smelling liquid, to form the yellow-orange cellulose xanthate. Cellulose xanthate is soluble in dilute caustic soda, and from it is prepared a solution of a dark yellow color, which is then set aside to "ripen."

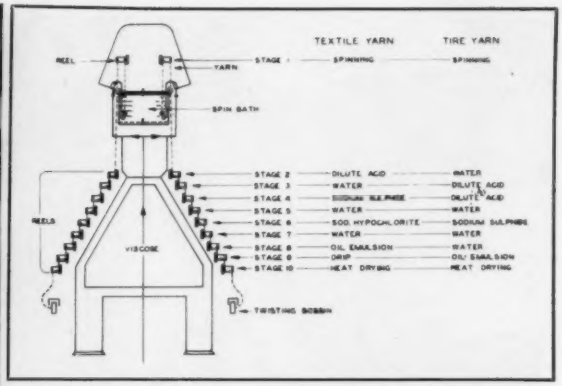
During the ripening and aging process, the time and temperature conditions must be very carefully controlled, as well as the concentration of the reacting chemicals. Almost no other industry is as particular as the rayon industry in the rigidity of the specifications for their chemicals. Even very small changes will greatly affect the properties of the final fibers. As much as one part of manganese in a million parts of the caustic can cause trouble in the processing. Only a few degrees variation in temperature during ripening or aging could produce a fiber much weaker than the standard production.

One of the properties of the cellulose which is affected by variations in the conditions of treatment, of aging, and of ripening is the "degree of polymerization." This refers to the extent to which the small molecular units are combined to give the long molecules characteristic of cellulose as we know it. In wood pulp cellulose, about a thousand small cellulose units are combined into an extremely long molecule. It is the shape of this molecule and its ability to form bundles with other like molecules which give cotton and rayon the fibrous properties.

In the dissolving process, these molecules are broken down into shorter chains. If they become too

*Articles 1 and 2 appeared in the May and June issues, respectively.





Industrial Rayon Corporation's continuous process machine for making viscose yarn is pictured above. At the upper level behind the glass enclosures is the spin bath where the viscose solidifies into filaments of rayon which are drawn up to the first of a series of thread advancing reels. The yarn advances from the back to the forward end of the reel, then drops off to the processing section below. As the yarn travels down the bank of reels on the middle level, processing solutions are applied to the individual strands. On the lower level, the yarn is dried in individual strands as it passes over heated aluminum reels behind these circular windows. As the yarn is drawn off over the guides to rapidly revolving bobbins, twist is introduced. Schematic diagram above shows path of yarn as it is produced.

short, the final product is appreciably weakened, just as when yarn is spun from short staple fibers; it is not as strong as when long staple is used. Generally, the final degree of polymerization is controlled to about one third or more of the original chain length of the molecule, which will still leave adequate strength in the final yarn filaments.

Tests are continually made during the course of the preparation of the viscose solution to be sure it is progressing properly, and to be able to make any necessary adjustments. The ripening process conditions are set so as to produce a solution which will have the proper viscosity and colloidal properties to spin readily.

At this stage, any pigments or dulling agents that it is desired to have in the final yarn are added. The dulling agents are generally simply white pigments, principally titanium dioxide, which have the effect of breaking up the light reflections, thus cutting down on the sheen of the yarn. For ordinary bright viscose filament, nothing else is added.

The viscose solution is pumped through spinnerettes, which are hard platinum alloy caps over the ends of the viscose feed pipes. These caps have a number of holes, depending on the number of filaments it is desired to have with each yarn. The spinnerette is immersed in the coagulating bath, the operator takes the coagulated mass of viscose which is exuding from the spinnerette in his fingers, and leads it over the "Godet wheel" to the spinning mechanism.

We can see that the size of the filament will depend on the rate of flow through the holes of the spinnerette rather than the size of the holes, just as the size of a stream from a faucet depends on how much the valve is opened, rather than on the size of the opening. And at a constant rate of flow, the size of the filament can also be controlled by varying the rate at which the filaments are pulled away from the holes. Flow is very accurately controlled by the use of a metering pump at each spinnerette.

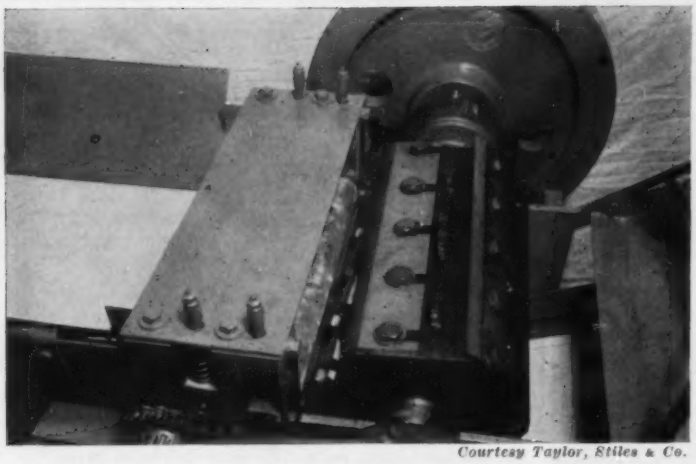
The Godet wheel, which is essentially a form of pulley, controls the rate at which the filaments are pulled from the spinnerette. Both rates may be controlled on the

One of the many types of spinnerettes used to produce man-made fibers. The number of holes in the hard platinum alloy caps is the same as the number of filaments called for in the yarn which it was designed to produce.

Courtesy Baker & Co., Inc.

Action photo of a spinnerette. Note the coagulated filaments exuding from it.

Courtesy Industrial Rayon Corp.



Courtesy Taylor, Stiles & Co.

A precision type cutter which may be used for converting tow to staple fiber. Feed apron at left brings tow to feed rolls which hold the continuous filaments firmly, close to the cutting edge. Knives on rotating element (center) cut the continuous filaments into predetermined lengths. Staple fiber drops down to a discharge apron or chute (right) or may be carried away by suction.

usual spinning machines, to vary filament sizes.

The coagulating bath contains sulfuric acid, to neutralize the alkali of the viscose solution, and salts (principally sodium sulfate plus a small amount of zinc sulfate) to aid in the precipitation. Glucose is also present in the coagulating bath. Since the bath is continually picking up alkali and disulfide from viscose, it must be continually circulated and fresh solution added. Its concentration and its temperature materially affect the manner in which the filaments are precipitated, and therefore, the physical properties of the final yarns.

From the Godet wheel, the yarns go to the spinning mechanism, the construction of which varies according to the system being used. As this does not affect our yarn properties appreciably, we will not describe it at this point—interested persons may find descriptions in any text on rayon fibers and their manufacture.

When the filaments are precipitated in the coagulating bath, the cellulose molecules may come out of the solution headed in just any direction. There is a normal tendency for them to gather in bundles, which have a greater strength and rigidity, but the conditions are not of the best for this gathering—called technically "orientation." The flow of the bath materials within the forming filament and the short time of coagulation interfere with the orientation.

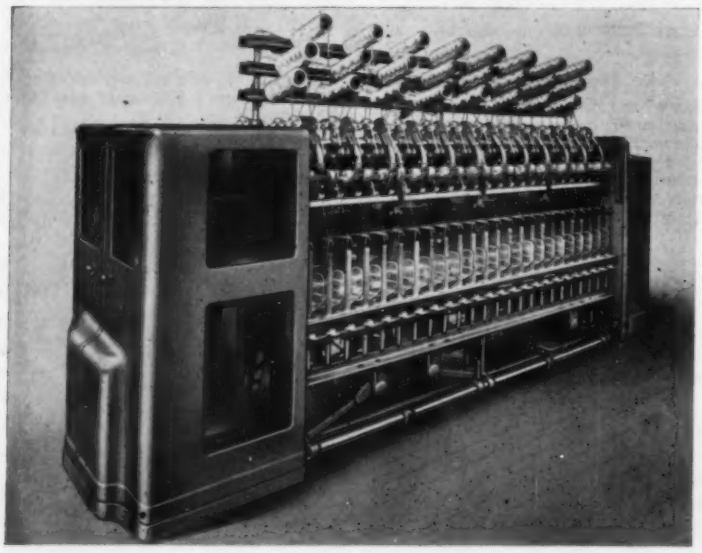
Again comparing it with a cotton yarn, the difference between a highly oriented filament and one not so oriented is similar to the difference between a combed yarn and a poorly carded yarn. The amount of stretch obtained during spinning will affect the orientation of the fibers, which can be increased by stretching the filaments while they are still in the plastic state.

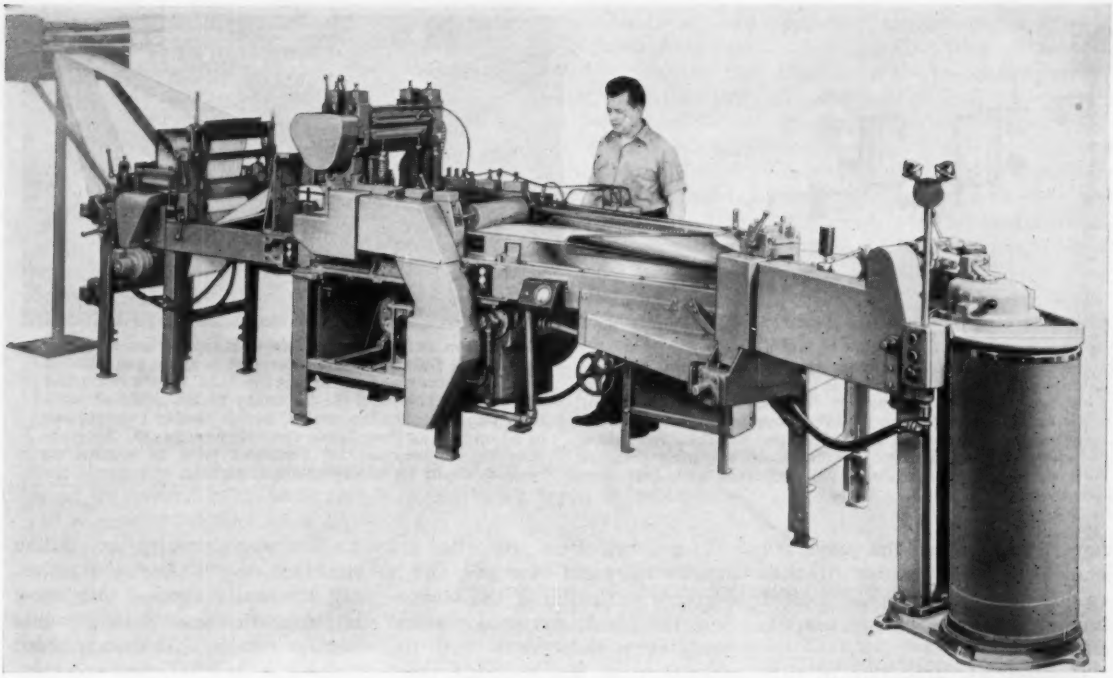
After being spun, the rayon yarn must be washed, to remove the bath chemicals, treated with a sodium sulfide solution to remove sulfur compounds, and then bleached with a hypochlorite solution. It is then soured with a dilute acid, washed again, and dried.

The viscose yarn thus obtained is a very long continuous filament yarn. It may be produced in various sizes, and the yarn characteristics depend not only on the number of the individual filaments, but also on the size of these filaments. Individual filament and yarn sizes of rayon and acetate yarns are measured by "denier." On this scale, the size of the yarn or filament is expressed by the number of deniers (0.05 gm) in a 450-meter skein. A skein of this length weighing one gram would be 20 denier yarn or filament.

The individual filaments are commonly produced in sizes from 1.5 to 5 denier, and for special pur-

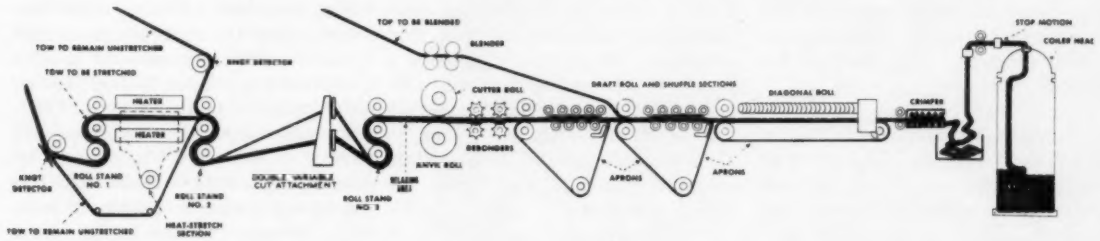
The Stains direct spinner converts continuous filament tow into spun yarn in one operation by a controlled tension breaking of the fibers into predetermined lengths by the use of a rotating prism immediately prior to drafting, yet retaining the parallel position of the fibers. After drafting in the usual manner, the insertion of twist and winding of the yarn on the bobbin takes place through the use of the conventional spindle, ring, and traveler. *Courtesy Whitin Machine Works*





Courtesy The Warner & Swasey Co.

The Pacific Converter for making staple from continuous filament tow. Sketch below shows method of operation.



poses up to 20 denier. Yarns will run from 40 to several hundred denier, and for tire yarns over a thousand denier. A 75-19 yarn is a yarn of 75 denier weight, having 19 filaments.

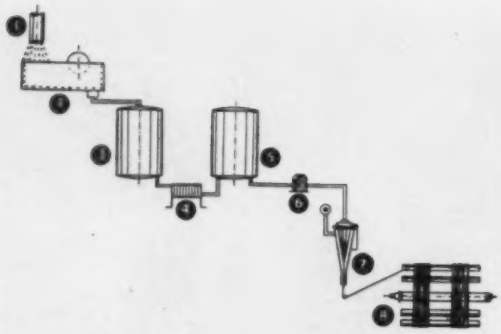
Rayon yarns may be used as either filament or "staple" yarns, and for the latter purpose, the filaments must be cut. The yarn spinner buys his staple fiber in the bale, and cards and spins it as he would cotton, or he may buy his rayon in tow form—a long thick, lightly twisted rope of continuous filaments, which he may cut himself, or break into suitable lengths for his spinning operations. This latter system is often preferred, as the cutting or breaking into staple may be handled in such a manner that the fibers are kept oriented and led directly into the spinning operation without the necessity for carding.

Cuprammonium Yarns. Of the several methods of producing a regenerated cellulose yarn, the cuprammonium process is the only one besides the viscose process which today has any commercial importance. This process was itself dormant for a while, because of the difficulty of producing a fiber with adequate strength, but the development of the "stretch spinning process" by the Bemberg Corporation enabled the production of a high grade yarn with good physical characteristics.

The process is more expensive than the viscose process, but the yarns draw a certain premium on the market due to the ability of the present process to produce a very fine filament with good wearing characteristics and an attractive appearance and handle.

The cellulose used in this process may be derived from either wood pulp or cotton linters. It is given a final purification when necessary by pressure cooking with caustic solutions, an action very much like kier boiling. It is then dissolved in a solution of copper sulfate in ammonia. This gives a very deep blue, quite viscous solution of cellulose, which must be aged and ripened carefully as in the viscose process, to produce a solution with good spinning characteristics.

Coagulation is carried out with water alone, which dilutes the ammonia and removes it, precipitating the cellulose. From the water bath, the filaments pass to an acid bath, which removes most of the



How American Bemberg produces rayon by the cuprammonium process is shown in the drawing above. Key to numerals: (1) Raw material—cotton linters or wood pulp; (2) Washing machine in which cellulose is bleached a pure white; (3) Solution mixer where the cuprammonium cellulose spinning solution is prepared by dissolving the cellulose at a low temperature in aqueous ammonia containing basic copper sulfate; (4) Solution filter where impurities are filtered out; (5) Spinning solution storage tank where maturing or aging takes place; (6) Spinning bath supply of purified, slightly alkaline water which causes coagulation of filaments as they leave the spinnerette; (7) Stretch-spinning apparatus; (8) Finished yarn is wound on reels in skein form (see photo at right).

copper, after which the yarns are spun in a similar manner to that used in the viscose process, washed thoroughly with water, soaped, and rinsed.

Commercial production of filament yarns of cuprammonium are made with filaments as fine as 0.4 denier, as compared with the one denier filaments which are the finest normally produced in the viscose process.

Physical Properties of Rayon. From the foregoing description of the production of rayon, we see that the formation of a rayon fiber proceeds within an extremely short space of time, as compared to the time required to form a cotton fiber. We therefore would not expect to find its structure so highly developed as that of cotton.

Actually, it is surprising that under the conditions of coagulation, the rayon molecules have time to form any appreciable amount of crystalline structure at all. However, a good part of the rayon fiber is crystalline, as can be proven by X-ray diffraction studies. Furthermore, the amount of crystallinity is not immediately set, but may be changed by the treatment of the fibers shortly after they are formed, while they are still in a "plastic" state.

Stretching the yarn under tension increases the alignment of the rayon molecules into a more "oriented" structure, which gives it more of the properties of a crystalline material.

In general, these properties are greatly increased strength, and a decrease in flexibility and elongation. The highly stretched oriented yarns may show only half the elongation at the breaking point that the ordinary yarns show.

Since the sub-microscopic structure of rayon is formed in a completely different manner from that of cotton, and evidently contains a much higher percentage of non-oriented or "amorphous" material, we would naturally expect rayon to behave differently from cotton, even though it is made from the same molecular building blocks. The molecules themselves may affect its chemical properties, but have no completely determining effect on its physical properties—just as bricks may be used to build either a fire station or a dog house, depending on how they are put together.

One of the differences in the properties of rayon and cotton is that cotton is usually stronger for the same size fiber than rayon. This may be due in part to the type of structure, and in part to the fact that the chemical process of dissolving the cellulose to make rayon breaks down the molecules to shorter lengths.

Another difference is in the elongation properties just mentioned. Rayon will stretch much farther before breaking than will cotton. That this is primarily due to its lack of a high degree of orientation of molecules is shown by the fact that a rayon treated to give a more nearly crystalline structure shows less elongation. "High-tenacity viscose" may show an elongation of 10 - 15%, while regular viscose will stretch about twice this amount before breaking.

Similar to cotton, rayon exhibits the property of "creep" under tension, or when relaxing after tension. That is, a rayon yarn held under a certain amount of tension will stretch a little farther during the period it is held so—or if it is stretched a certain distance, will relax so that less tension will be required to hold it there. It is this property which is considered to be the cause of "set-marks," the cross-wise irregularities which show up in the cloth when the loom is stopped for any length of time.

Conversely, when the fibers have been under tension for some time, and the tension is released, the fibers do not immediately return to their original length, but remain slightly stretched. The rest of the return occurs over a period of time, as the fibers "creep" back to their original dimension. The extent to which the yarn can do this determines its value in many materials, particularly in dress goods, which must "hold their shape."

Effect of Moisture. One of the principal differences between the cotton and rayon fibers is their difference in behavior toward moisture. Both show a similar hysteresis curve in the pick-up or loss of moisture at various relative humidities (see the discussion un-

der cotton). However, at the same relative humidities, rayon will hold about twice the moisture that cotton fibers hold.

Furthermore, while cotton increases in strength as its moisture content increases, just the reverse is true of rayon. A wet rayon yarn will have just about half the strength of a dry rayon yarn. This is one of the reasons why rayon is not woven at as high humidities as are used for cotton. Customarily, weave room humidities of from 65-72% R.H. are preferred for rayon, as compared with 80 - 85% R.H. for cotton.

On the other hand, the elongation increases with an increase in moisture content, in the same manner as with cotton. Also, the flexibility of the yarn increases with moisture content, so that it is not desirable to have the weave room too dry. Besides this, a further difficulty encountered with overdried rayon is that it develops static charges which do not dissipate as readily as they do with cotton. Probably one reason for this is that rayon contains a much lower proportion of inorganic salts than does cotton, whose salts act as an electrical conductor to help dissipate static charges.

Chemical Composition and Properties. Rayon is even more nearly pure cellulose than is cotton. The fractions of the original cellulose which do not dissolve in the solubilizing solutions are filtered out, and those which are soluble are for the most part also soluble in the coagulating bath, so that only the cellulose is precipitated. Of course, some of the bath may remain in the fibers, as the wash is not 100% perfect. And the cellulose tends to hold certain substances, such as iron and calcium salts. However, the average mineral matter content of rayon is only around 0.2%, or about one-fifth that of cotton.

Since none of the original fats and waxes of cotton remain with the cellulose in rayon, even when it is made from cotton linters instead of wood pulp, it has no protective waterproofing layer, and is quickly wet by water or water solutions.

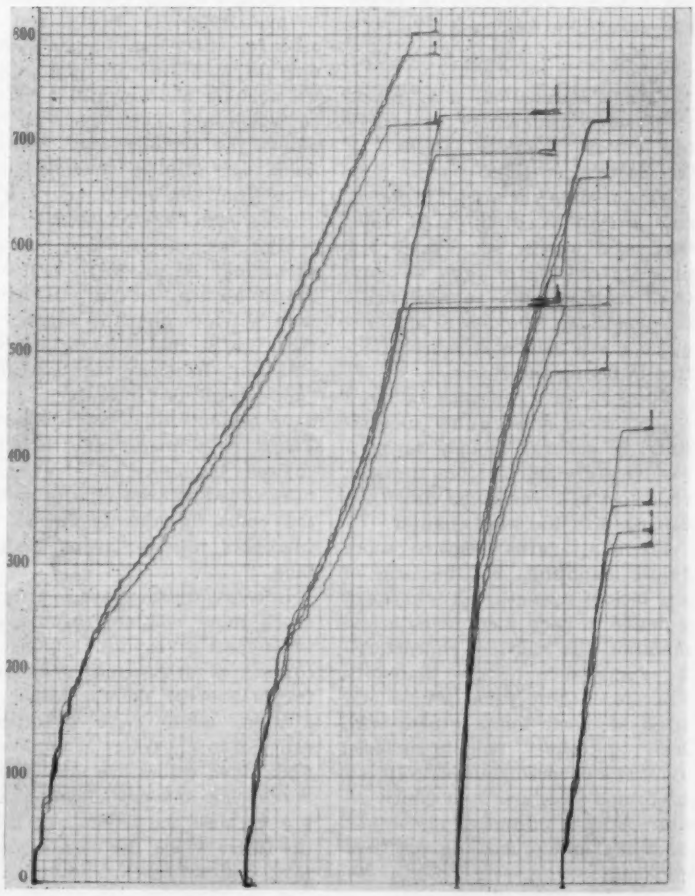
At the same time, rayon may often be treated with coning oils or other types of lubricating oils, which are applied to improve the ease of processing and handling, and to minimize the damage to the yarns from abrasion. The oils may not only decrease the wettability of the rayon, but may also make it more difficult for sizing solutions to adhere to the yarn surfaces. Whenever these oils are present, sizing formulas may have to be adjusted to take them into consideration.

Like cotton, rayon is subject to deterioration by the action of heat and light, or by acids and oxidizing agents. It is even more sensitive than cotton; however, the present-day rayon is much more resistant to damage by action of these agents than was rayon twenty or thirty years ago. While in the past it was customary to process rayon at temperatures as low as possible in order to prevent damage, rayon is now handled almost like cotton, and it is quite customary to size spun rayons at or near the boiling point of the size solutions.

Also like cotton, pure rayon is fairly resistant to mildew attack. However, if mildew has once started growing and feeding on sized rayon or on dirty rayon, the mildew organisms will often attack the rayon after they have run out of all other food.

One of the chemical properties

Serigraph chart illustrating comparative extension or elongation of various yarns at the breaking point (four breaks of each yarn). Vertical distance to the sudden change in the curve measures the tensile strength; horizontal distance measures elongation during application of tension to the breaking point. Left to right: spun Dynel yarn, 33.0% stretch; spun Dacron, Type 2, 16.3%; spun viscose, 10.5%; cotton, 4.8% (stretch of this sample of cotton is unusually low—cotton more often stretches about 6% at the break).



that must be considered, and which requires care in the preparation department, is the appreciable variation in dyeing characteristics of rayons from different sources. Very small variations in the processing and manufacture of rayon produce noticeable variations in the way that the fibers take the dyestuffs. This means that much care must be taken in blending, and that warps should contain only yarns from one particular source, otherwise streaks may show up in the dyed goods.

Even when particular care is taken in this direction, it is also found that rayon yarns may be made to dye differently by abrasion of the surface or by holding them under tension. Therefore, the rayon yarns must be protected against unnecessary rubbing or abrasion. And the tension of all the yarns in the warp should be the same, since a badly stretched yarn will often show up as a dye streak. Such streaks are particularly obvious and not uncommon in twills and gabardine weaves.

Yarn Construction. The rayon yarns we consider may, of course, be either filament yarns or "spuns." The spun yarns may show the same variation in properties to size that cotton yarns show: that is, a loosely spun yarn will pick up more size than a hard-twist yarn which is more difficult to penetrate. They will also require a size which is more effective in laying the fibers.

Spun rayon yarns may be sized with cotton sizes quite successfully. In general, though, superior results are claimed from the special types of rayon gums which are discussed in the next chapter.

Filament yarns require more gentle handling, not because of any lack of strength, but because of a desire to keep them smooth and maintain the silk-like characteristic appearance of the filaments. Therefore, these yarns are usually sized at lower temperatures with less agitation; smooth-surfaced synthetic covered squeeze rolls are used; and sizes are used which require only a minimum amount of handling and processing for their removal.

Material to be Sized—Acetate Yarns

As previously mentioned, "acetate" yarns, although once classified as rayon, are chemically different. To produce acetate fibers, the cellulose, either from cotton linters or from wood pulp, is dissolved in a mixture of acetic acid and acetic anhydride with a small amount of sulfuric acid. This gives a reaction product known to the chemist as an ester of cellulose—cellulose tri-acetate.

The tri-acetate does not have the proper qualities for easy spinning and must be partially hydrolyzed to split off a certain proportion of the acetic acid which had reacted with the cellulose. After hydrolysis, the solution is then dropped into water. The acetate is precipitated as a white flake, which is washed to remove the acid, and dried for storage until needed for spinning.

This white flake is dissolved for the spinning process in acetone, which is a highly volatile solvent. It evaporates so easily and so quickly, that the acetate yarns may be "spun" simply by pumping the acetone solution into a stream of warm air. The warm air removes the acetone, and the filaments are formed, stretched, and spun from this point on much as viscose yarns are handled.

Like the rayon yarns, acetate yarns may be produced either as bright acetate, or dull, the latter with a white pigment which cuts the shine so that a matte effect is obtained. Recently, the so-called "dope-dyed" or "spun-dyed" yarns have become much more popular. These are synthetic yarns to which colored pigments or dyes have been added before spinning, so that the color is actually inside the filaments, rather than on the surface.

In weaving, spun-dyed yarns are much more common in the acetates than in rayons. Rayons are commonly spun-dyed principally for underwear colors, which are knitted, while with acetates a range of bright colors is obtainable. Spun-dyed colors are very fast to laundering and dry cleaning, simply because the colors are inside the fibers where the cleaning solutions will not reach. The light fastness of such colors depends on the particular color used. Some of the colors are subject to sunlight fading, so that the color is not perfect despite the excellent wash-fastness.

Properties of Acetate Yarns. The most important difference we note with acetate yarns as compared with cotton and viscose yarns, is their difference in behavior with regard to water and water solutions. Although qualitatively we may say the behavior is similar to that of cotton, in that the acetate picks up a certain amount of moisture as the surrounding relative humidity increases, and loses it as the air becomes dryer, quantitatively there is a difference. The acetate yarns absorb about three-fourths as much moisture from the air as does cotton; about half as much as rayon. The standard moisture content of acetate yarns is considered to be 6½%. Under the same conditions cotton will hold about 8% moisture and viscose 12-14%.

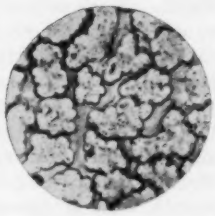
Like rayon, the acetate yarns are fairly pure chemically, and clean acetate yarns will wet easily with water, not having a protective waterproofing film of wax as has cotton. Therefore, the acetate yarns are easily wetted in a sizing bath, and a penetrant is not normally required, unless the yarns have a fairly high percentage of coning or processing oils as a coating.

Despite the ease of wetting, the water, water solutions, or size solutions do not adhere as well to the acetate yarns as they do to cotton or viscose. One result of this is that a wetted acetate fabric will dry more rapidly than viscose. Another result is that a much lower proportion of the size bath is picked up by acetates than by cotton.

We normally consider that an average cotton or rayon warp, with the average squeeze rolls and sizing conditions, will pick up an equal weight of size—a hundred pounds of warp will pick up a hundred pounds of size solution. Several factors will cause a variation in this, such as speed of

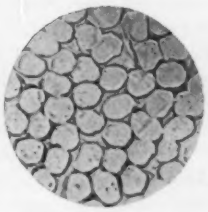
Photomicrographs of Some Man-Made Fibers

1 den. viscose rayon staple, longitudinal view (x 80).

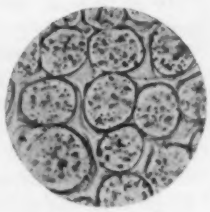


3 den. viscose rayon staple, cross section (x 400).

Filament viscose rayon, cross section (x 400).



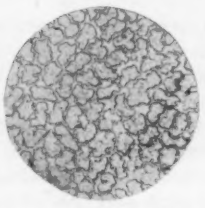
Filament cuprammonium rayon, cross section (x 400).



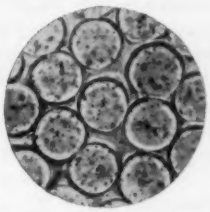
Cuprammonium rayon staple, cross section (x 400).

3-3.5 den. filament acetate, longitudinal view (x 80).

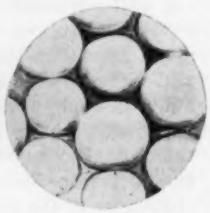
3-3.5 den. acetate staple, cross section (x 400).



17 den. acetate staple (partially saponified), cross section (x 80).



Delustered polyamide fiber, cross section (x 400).



Bright polyamide fiber, cross section (x 400).

From "The Identification of Textile Fibers," by Bruno Luniak.

slasher, weight of squeeze roll, viscosity of size, type of binder used, tightness of yarn twist, etc. However it is unusual to find a pick-up of less than 90% or more than 110%, despite these variables.

With acetate yarns, the pick-up is generally closer to 60 - 70% of the weight of the yarn, so that to get the same amount of size on the yarns, is is necessary to use a much more concentrated formula. This is to a certain extent an advantage, because one is able to apply the amount of solid sizing material he needs without adding as much extra water. The water after all, is acting only as a carrier, and money must be spent for steam to drive it off.

Furthermore, we generally find that more powerful binders are required to keep the size adhering to the acetate yarns, and prevent shedding. Formulas similar to rayon formulas are used for slashing, but special binders are often added, except when using gelatin on the filament yarns.

In general, the properties of acetate yarns are similar to those of viscose and cotton with regard to such considerations as absorption, hysteresis, creep, elasticity, and so on. Acetate yarns are not as strong as cotton, having a strength range near that of rayon. The elongation at the break is around 15 - 20%, much more than cotton, and somewhat more than the high tenacity rayon. As with rayon, the elongation is determined by the spinning method and the handling during the spinning process. Acetate yarns are produced for special purposes, such as parachute cloth, having elongations of up to 50% at the breaking point, which gives a very high impact strength.

In common with most synthetic yarns, and unlike cotton and most natural fibers, acetate yarns have a greater dry strength than wet strength. Therefore, it would seem advantageous to process acetate yarns in a fairly dry state. However, the acetate filaments are first class electrical insulators, and as such tend to hold any static charges generated during processing. The drier the air or the yarn, the greater the tendency for the yarn to hold a static charge, so that a proper humidity must be maintained, in order to avoid difficulties.

One of the advantages of acetate yarn is its resistance to biological attack. Even under extreme conditions, it is very rare that acetate yarns have been reported to be subject to mildew attack.

Material to be Sized—Synthetic yarns

Originally the term "synthetic yarn" applied to rayons and acetate yarns. Today these are considered cellulose derivatives, and the term "synthetic" is generally reserved for fibers which are fully synthesized from small molecules. Among these are nylon, Dacron, dynel, Orlon, Acrilan, perlon, vinyon, Vicara, and many others. New fibers are continually appearing, as well as new modifications of the "older" synthetics.

When the previous edition of this work was written, some slashing of nylon was being carried out on a limited scale. Other synthetics were still only being experimented with, as far as slashing was concerned. In the few short years in between, many new fibers are being slasher-sized, and there

are hundreds of blends of these with each other and with cotton, wool, and rayon.

It is beyond the scope of this present work to go into a description of each of these yarns and the many blends encountered. However, a few pertinent remarks may be made.

Properties Which Affect Sizing. In general, the synthetic yarns are "hydrophobic" in character. This means that they do not like water, and will not readily absorb water or water solutions. This makes it more difficult to find a size which will adhere well to these yarns. Many of their properties with regard to slashing are similar to those of the acetate fibers discussed previously.

Pick-up of the size solution may vary between 40% and 60%, as compared with 100% for cotton or viscose. This means that the size formula must be twice as concentrated in order to get the same amount of size applied to the yarn. In one way, this may be a disadvantage, as specially modified starches must be used in starch sizing, since the usual starches are too thick at the concentrations needed. At the same time, it should be remembered (and this is occasionally forgotten by the slasher overseer) that the cost of application of size depends on the per cent of dry sizing materials picked up by the yarn, and *not* on the cost per gallon of made-up size.

Furthermore, a concentrated formula is in one way more economical—only half as much water need be driven off in the drying process. These concentrated formulas very often have greater tendencies toward sticking on the drying cans, and special sizing ingredients have had to be developed to minimize this difficulty.

Another property possessed by many of these fibers is that the size film itself does not adhere too well to the fiber surface. Different materials have been developed to give improved adherence, and work in this direction is being continued, both by size manufacturers and by producers of the fibers.

Most of the synthetic yarns have much greater elongation than cotton. Hence, the size film must be more elastic, or it will be broken when the yarn is stretched. This situation may be helped by stretching the yarn some while wet on the slasher, so as to leave less elongation in the sized yarn. It has been found that this will often produce better weaving; and with twill and gabardine weaves, a better face is obtained on the cloth by maintaining the higher tensions

One of the greatest difficulties encountered in weaving synthetics is, strangely enough, due to their greater fiber strength. When the reed rubs against the yarns, loose fiber ends may be pushed back along the yarn. With cotton and viscose, these will often break and

How Automation in the Textile Industry Will Affect

EXTRACT*

IF AUTOMATION is interpreted to mean a fully automatic (push button) type manufacturing operation, I believe that its attainment in the textile industry is extremely dubious and certainly a long way off for the following reasons:

1. Textile processes are not standardized to the degree required for fully automatic operations (due to the nature of material and processes).

2. The inherent inflexibility of a fully automatic operation requires a high volume of identical units of production. This is not consistent with style controlled textile production.

The production of man-made fibers and non-woven fabrics probably lends itself more readily to the "push button" concept of automation than do other products of the textile industry.

If the concept of automation is considered to be the improvement of manufacturing methods through maximum usage of machinery and equipment incorporating fully or semi-automatic features, then the textile industry already has embarked on a program of automation and has a wide area in which this program can be expanded. Specifically, I am thinking of:

1. The increased development of automatic features on textile machinery (for example, Unifil).

2. The wider use of constantly improving mechanical and electronic data processing equipment for "paper work."

3. The wider use of improved materials handling equipment and techniques.

Effect of Automation on Management. From the long range point of view, automation can strongly affect the type and caliber of management personnel needed to effectively realize the effect of automation on merchandising and sales, and also the general attitude and philosophy of automation. It is naturally assumed that many of our present philosophies on merchandising and sales will be changed as a result of automation and that many textile executives and management personnel will fall by the wayside, inasmuch as they will not be able to accept new ideas. The change from the old to the new will be hard.

It will become more mandatory that management be closer to the employee and have a better working relationship with the employees because the adding of automatic types of machinery creates a considerable amount of unrest in the minds of the people. Management then has to become good salesmen in order to sell the

*From Mr. Cushman's remarks during a panel discussion on Textile Education and Machinery Day (May 10) at Lowell Technological Institute, Lowell, Mass.

fall off as shed, but the stronger synthetic fibers will not break as easily. They then begin to "peel back." Either with filament or with the spun yarns, the longer the protruding end becomes, the more of it there is for the reed to push against, and the process continues until enough of the fiber has been pulled away from the yarn to form a fuzz ball. These fuzz balls, if they remain small, will weave into the cloth as a minor defect. If they grow large enough, they will get caught on the reed and break out, or may cut a neighboring yarn.

For this reason, a heavier protective film is required for synthetic slashing, and the film must contain good lubricants.

Static is another source of difficulty with the synthetic yarns. Partly because of their physical properties, partly because, being hydrophobic, they contain very little moisture, they have a strong tendency to collect static electrical charges, which at their low moisture content, are not readily dispersed. Weave room humidity should not be too low, as this will increase difficulties from static.

Static eliminators are often used on slashers. Actually the difficulties from static in slashing are not as serious as in spinning or other processes, but it does increase the fuzziness of the yarns, and the slasher operator can often get a healthy shock from accumulated static.

One very effective method for minimizing the static difficulties is to apply a lubricant to the outside of the yarn surface after the size has dried. (The methods and apparatus for this will be described later.) This lubricant cuts down on the friction, and hence minimizes static troubles at the head of the slasher and in weaving.

Sizing Blends. In the slashing of blends of fibers, there are so many possible blends that no specific recommendations may be given for each. It is customary to adjust formulas and conditions to size the fiber which is predominant in the blend. In this manner, results are usually satisfactory, if not perfect.

Adjustments may be made as the work proceeds, if a long enough run on that particular blend is to be made. For instance, a blend of 20% Dacron with 80% cotton would be sized with a cotton formula, while a blend of 20% cotton with 80% Dacron would be slashed with a Dacron-type formula. On 50 - 50 blends, a Dacron-type formula would be used, but at a somewhat lower concentration than for the Dacron alone.

The principles of slashing synthetics and the machinery are the same as for cotton, taking into consideration the above remarks. Much still remains to be learned about synthetic yarn slashing, but it is being widely and successfully accomplished. The experience being built up by today's operators will smooth the path for those to come. *(Continued next issue.)*

Management, Labor, and the Future

BY R. M. CUSHMAN
Vice-President for Manufacturing
Amerotron Corporation

idea of automatic machinery and its possible future increase of manufacturing facilities. Management also has to be better educated with a more broad knowledge of electrical and machinery equipment because the automation type machines are not as simple as the non-automatic type. This same complexity also causes management to have to give more serious thought to better training procedures, and the increasing of staff assistants to line management in maintenance and upkeep of the machines.

Effect of Automation on Labor. In this range I am speaking for the most part of your regular productive employees, inasmuch as automation will bring much more complicated and technical type of machinery. The personnel employed in the running of this machinery, of course, will have to be of a more skilled and of a highly trained caliber. It is also realized, of course, that automation will require far fewer people than were currently needed; but this will not pose any significant social problems, inasmuch as in expanding economy under our present methods, really serious labor shortages will foreseeably develop. More simply, automation can definitely be insurance against ultimate labor shortages in textiles in the future.

Labor will find that it needs higher education in order to be able to hold down jobs because the automation type machinery requires a much more intelligent and informed operator.

As a side light, one of the sociological problems that we anticipate occurring, with the increase of automation, is the absorption into the labor force of the lower class of people from an intelligence viewpoint. As more and more plants develop or purchase automatic types of machinery and require higher skilled and more intelligent people, there is going to develop a serious shortage of these types of people and a serious surplus of the lesser skilled employees.

Effect of Automation on the Future of the Textile Industry. A program of automation requires a substantial outlay of capital and a volume production of potential standardized products sufficient to justify the expenditure. Obviously these requirements restrict the wide use of automation to large companies. Where further progress is made in the field of automation, it may well tend to encourage a continuation in the trend of company mergers. Small companies would not be competitive on volume items but would, however, be more flexible than large semi-automatic operations and, hence, could serve localized and specialized needs. *(More next page)*

(Continued from page 111)

Without automation, in my opinion, textiles can be a diminishing industry in this country but in summation it will require much seriousness along the following lines:

1. A more aggressive, intelligent, open-minded management.
2. Improved industrial relations and personnel programs.
3. Improved industrial engineering.
4. Improved plant layouts.
5. Improved planning and scheduling.
6. More aggressiveness on the part of plant supervision.

How Do You Break-in New Rings?

Georgia mill men differ in their systems of starting up new rings, but they are all seeking to get the longest ring and traveler life possible, along with the best running work. Compare these systems with your own.

STAFF REPORT*

AS A RULE, though with the usual exceptions, new spinning rings are broken in at speeds considerably below those of normal running. The range of reduction falls between the rather loose limits of 10% and 50%, with some of the plants reporting no decrease at all. Ring lubrication during the breaking-in period is not a standard practice.

Because of the drag new rings give, breaking-in usually is begun with traveler weights several numbers lighter than would normally be needed. Then, as the drag decreases, the traveler weights are brought progressively back to normal.

In some mills elaborate schedules are used to control the process of breaking in. The breaking-in period for **Mill F** requires 280 hours with the travelers changed as follows:

1st change runs 30 minutes.
2nd change runs 1 hour.
3rd change runs 2 hours.
4th change runs 4 hours.
5th through 14th changes run 8 hours.
15th through 19th changes run 16 hours.
20th and 21st changes run 32 hours.

Step up running time each change thereafter until the running time has reached 64 hours

At the start the rings are lubricated with a mixture of castor oil and sulfur, and are lubricated weekly thereafter. Yarn size: 8¾s.

Some approaches are not so involved. **Mill J** starts with travelers from three to five numbers lighter and changes them the moment they turn blue from running. The first change usually occurs within five or ten minutes of the start-up. The next change runs longer, as does the next, and the next, etc. On a few rings tested by this method, the travelers quit burning on the fourth change, forty-five minutes after the process began. **Mill J** reports running 30s yarn on a 2½" ring, and running a 5/0 traveler at 5400 feet per minute.

Normal Traveler Changing Schedules. In the accompanying table are given the traveler changing frequencies of several mills.

While most mills prefer square-point travelers, **Mill M** prefers to break-in rings with the traveler type to be used in running.

Bonded Spinning Tapes. Three mills report that nylon tapes load with fly. Contributing factors given are weather, yarn sizes, and cotton grades. Fly removal is effected usually with brushes, but at one plant the felted mass is pinched in two manually and is then thrown

Left to right: **Benny Mathis** of Atlanta Textile Machinery Co.; **Allen Bentley** of Swift Mfg. Co.; **Willis James** of Summerville Mfg. Co.; **W. W. Hladky** of Werner Textile Consultants; **A. E. Owens, Jr.**, and **C. B. Powell** of Swift Mfg. Co.

NORMAL TRAVELER CHANGING FREQUENCIES

Mill	Frequency	Yarn Counts	Traveler Size	Ring Size	Spindle Speed (rpm)
A	120 hr	31s	4/0	2 5/16"	9500
B	120 hr	2s to 14s	4 to 72	—	3500 to 8400
B-1	Weekly	15s	9	—	7400
B-2	96 hr	12s	8	—	7800
C	96 hr	16s	—	2⅛"	8700
D	Weekly	6¾s	21	—	6447
E	96 hr	16s	4	2½"	—
F	64 hr	8¾"	10	—	—
G	Weekly	31s	1/0	—	9600
	72 hr	31s	1/0	2"	10,400 on antifriction spindles
H	Monthly	80s & 100s	22/0 & 20/0	—	7200
M	92 hr	10s	12	—	7200
O	72 hr	9s	14	2½"	7282

*Continuation of the report of the spring meeting of the Textile Operating Executives of Georgia. The carding section was reported in the June, 1956, issue.

off by the cylinder speed.

Of interest to those mills using cotton tapes is the news, introduced from the floor, that cotton tapes can be bonded with the same equipment used in bonding nylon.

Adjusting Spinning for Quilled Filling. Only one mill reduces the twist multiple on filling being spun for quilling.

High Draft Spinning Systems. High draft spinning systems give good performance in atmospheres too dry for conventional systems. The range of humidity figures in use is from 40% to 65%. Furthermore, the high draft systems run quite well in conditions set up for conventional spinning, and start up cold better than do the older types.

As a rule the high draft systems require more roll pressure than do conventional systems. The amount of weight used varies from plant to plant, but seems to fall within fairly close limits. **Mill I,** which runs yarn counts from 14s to 21s, with drafts from 14 to 25, uses weights of 28, 22, and 10 lb on the front, middle, and back rolls, respectively. Under similar conditions, **Mill M** uses 35, 25, and 15 lb in those positions. **Mill G** uses a total of 70 lb which is approximately two and a half times the weight used formerly.

Those mills which have changed top rolls are using steel, anti-friction, and nylon. The change is not mandatory, as is evidenced by those plants still using conventional rolls.

Air Suction Cleaning. Among the advantages most mentioned among users of air suction cleaning devices are fewer gouts and fewer ends down. These advantages are carried over into spooling and weaving operations in the form of fewer ends down and in more even fabric face.

Steel roll flute loading is present but is not regarded as serious. Since the loading seems to be in proportion to the yarn counts (the coarse counts load faster), the plants have devised flute cleaning schedules to meet local needs. The section men at **Mill U** clean the rolls on each shift once per week with a nylon toothbrush.

The one mill reporting a substantial increase in waste from the air suction system feels that the increase results from the greater amount picked up by the newer system and not through any increase in quantity produced.

Supplying Umbrella Creels. In two Georgia mills there are no layers of roving gathering dust and fly atop the spinning creels. Instead, the roving is set into the creels from small boxes pushed by the spinners as they patrol their sides.

In **Mill A** the slubber tenders doff into half-size roving boxes which are hooked in tandem. Each box is equipped with a small metal container for holding empty bobbins. The boxes are disconnected to reduce the weight the spinners must push and to relieve aisle congestion.

Mill N, running 12" x 6½" roving packages, doffs into a full-size box and divides the roving later into two boxes.

Creeling from boxes offers advantages in cleaner roving, cleaner frames, fewer slubs, and fewer tangled packages. However, both mills report that the operation seems to tire the spinners more than does creeling from roving stored atop the frames.

Other mills using umbrella creels designed for roving storage lay up the packages in the conventional manner. Cycle creeling is done in one plant.

Left to right are: Swift Mfg. Co.'s **Elmer Adams, C. F. Wallace,** and **B. T. Shepperd;** and Summerville Mfg. Co.'s **E. C. Bridgeman** and **Curtis Meacham.**

Left to right: **R. M. Argo, R. D. Black,** and **C. O. Kinsler** of Thomaston Mills; **A. O. Teal** and **T. R. Scott** of Martha Mills; **L. K. Williams** of Thomaston Mills; and **J. T. Reeves** of Martha Mills.

Left to right: **W. P. Norred** and **C. P. Hurst** of Opelika Mfg. Corp.'s Hawkinsville plant; **Jason Barfield** of Martha Mills; **E. F. (Gene) Robbins** of Thomaston Mills' Griffin plant; and **H. B. (Booch) Askew** of Ragan Ring Co.

Printing is a Three-in-One Operation

STAFF PREPARED

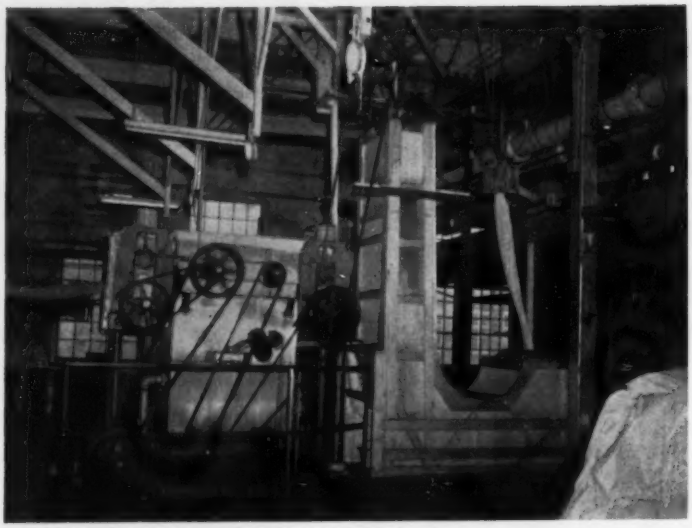
EXCLUSIVE

ONE WOULD THINK that the skills required to meet today's market demands for cotton prints would be sufficient to keep any mill busy just printing: The time required to properly train a printer, for example, is 7 years; copper roll engraving alone is an art in itself. The average print works, however, does no such thing. It is at once a bleachery, a print plant, and a finishing mill.

An outstanding example of a mill devoted to these tasks is the Arnold Plant of USF-Aspinook Finishing Division of Gera Corporation, Adams, Mass. In attempting to analyze why this plant is a successful quality producer, it is necessary to examine some 36 separate operations, each one requiring separate know-how. Certain controls are universal: Keep the filling straight, don't overstretch widthwise, and run patch tests before big runs at a critical

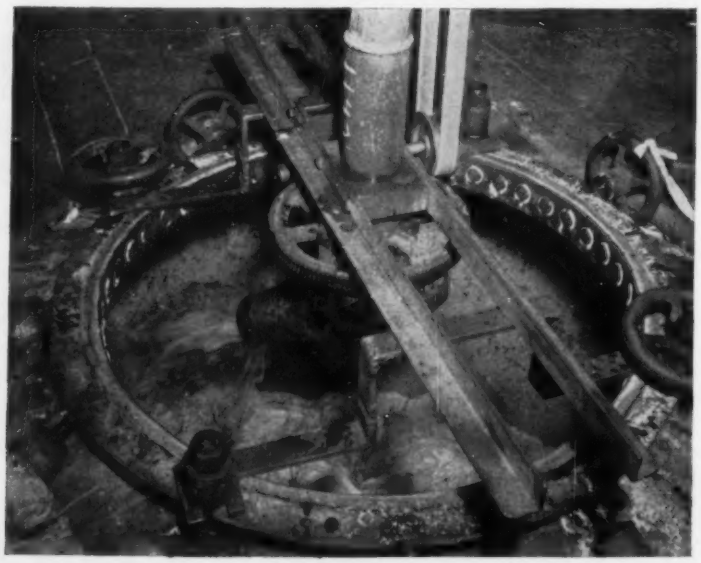
(Continued next page)

BATCHING properly requires that seams hold through operations and do not "scrimp" or pucker in caustic. To achieve this, tensions are kept low when setting the sewing head, mercerized sewing thread is used, seams are kept as flat as possible, and double edges are avoided by sewing all the way out to the ends of the seam. Light weight fabrics such as sateens are triple seamed.



FLEX REEL AND J-BOX feed kiers (upper right). The J-box was added to provide slack so that the machine does not have to be stopped when another desizing storage bin is tied on to Flex Reel feed or when delivering to another kier. The platform at top of J-box is a safety measure so that personnel needn't use a tall ladder.

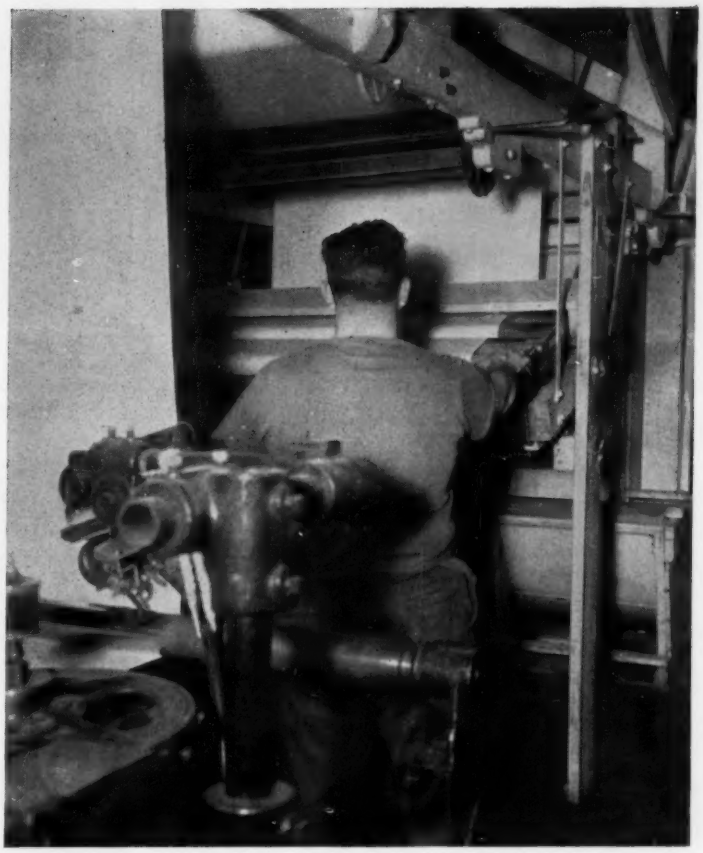
FIVE-TON KIERS are equipped with Allen-type pumps. Entering cloth in the kier with water helps obtain goods plaiting and washing. Rather than use the caustic solution in automatic piling, the water is used with the bottom kier drains open, and caustic is entered after piling. This minimizes contamination picked up from fabric surface. Boil-out cycle is 9 hours at 15 pounds of pressure, using 4-5° Tw caustic and a penetrant. Kier head is kept off when running blends containing a synthetic. Bleaching method used is a matter of economics. With light goods yielding high yardage per pound, kiers are used for peroxide bleaching; heavier goods are run on a standard hypochlorite bleaching range which can turn out 72,000 yards per hour.



operation such as printing, washing, and compressive shrinking.

Management at USF-Aspinook arranged a complete tour of the Arnold Plant so that TI's editors might report on what makes it tick; highlights of the operation are presented in the accompanying photograph series. While the pictures are in general sequence order, they do not necessarily represent flow of all materials processed, nor are all processes represented.

TENTERING is another critical operation. In the grey, cloth is 52 inches wide; after bleaching it is about 44. In tentering, goods are not pulled out to more than 45½ inches. By allowing as close to natural shrinkage as possible, avoiding overpulling, the danger of feeding a printing machine at one width and delivering another with intermediate and final rolls being out of fit is avoided. Rayon is run in a housed-in wet tenter, since it is glazed by cans. Feed of tenter, which accepts bleached, opened, rinsed, and can-dried goods, is equipped with one of many filling straighteners in the plant. Straight filling is currently more critical than ever, because of the large amount of small geometric patterns being printed. These tend to accentuate the visual effect of bowed or skewed filling.



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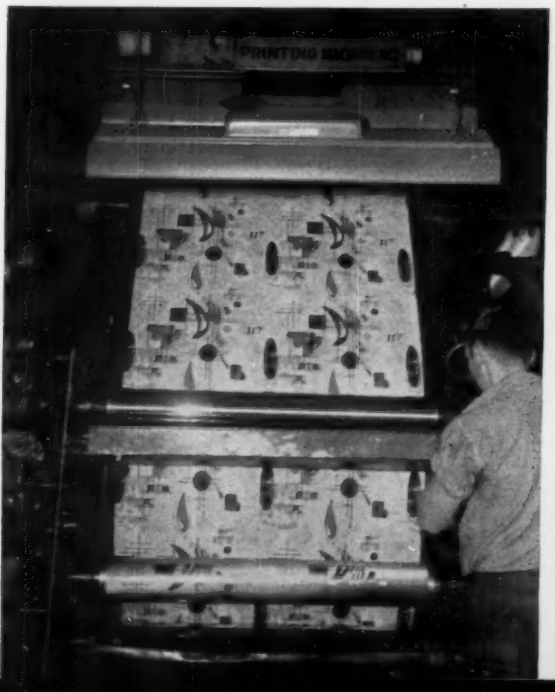
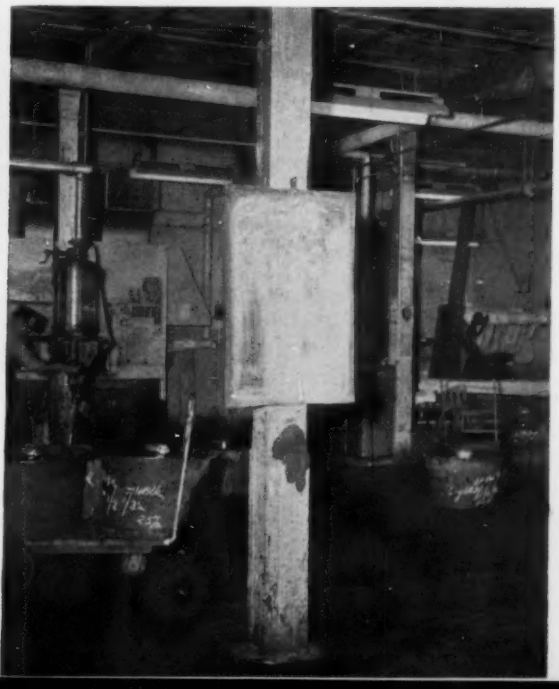
PRINTING DETAILS observed at this machine include a rubber-coated wash blanket, used in place of felt blanket plus back grey. Print rolls, chrome plated to protect sensitive copper base from scratches, are paper covered in storage when not in use to avoid pitting by HCl fumes from aniline black.



COLOR SHOP prepares mostly vat print pastes for print room. Before sending in to print machine, a striped pattern strike-off (machine shown at far right) is made and submitted to colorist for approval. Formulas are posted on board shown here from which tubs are made up.

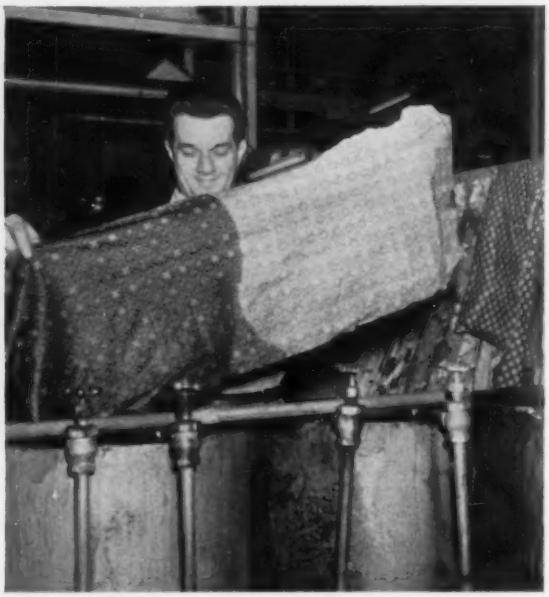


COLORIST again checks colors against print orders from a sample which is submitted to him after a few hundred yards have been run off. If formula needs adjustment at this point, he orders the appropriate change.

PRINT ROLLS must not be engraved too wide for the goods being processed, because if the cloth creeps in widthwise from back to front of printing machine, patterns will be out of fit from rollers at front of machine.

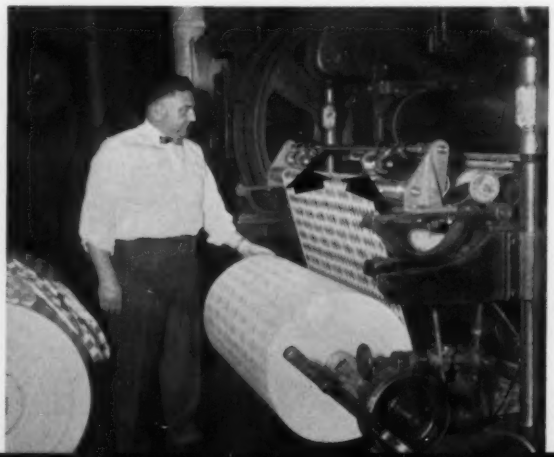
AGING must be preceded by a thorough drying or else when goods are in creel before delivery (shown in this photograph), the heat will drive off the reducing agent in the goods.

IN APPLYING FINISH (such as resins) to printed goods, filling straightening is again important and is done as shown here after impregnating. Tentering usually follows; goods are pulled out to ½ or 1 inch wider than the final width desired.



PATCH TEST is run to see the effect of washing (oxidizing). If the color does not match the standard, the goods are padded in reducing agent and reaged.

SCHREINERING MACHINE, inspected here by Plant Superintendent Joseph C. Merlini, has seam jumper to eliminate pasting of seams. Seam jumper (arrows) consists of two small rolls at edges of goods, rather than full-width roll.



The Public Interest

"The public be damned."—Remark attributed to Wm. H. Vanderbilt.

BY RINGGOLD ARDEN
EXCLUSIVE

SINCE Mr. Vanderbilt made his famous remark 75 or 80 years ago, the corporations, which in that day were regarded as having a rather callous attitude toward the public interest, have become very meek and docile, and the wild and free spirit of the old "robber barons" is now represented by the new "robber barons" who run our labor rackets. Their motto is certainly "the public be damned," and hardly a week passes without some concrete proof of this.

Strikes which deprive the public of telephone service, bus service, rail or trucking service, or which shut down all maritime activity, are undertaken quite casually by these truculent robber barons who have seized far more power than Mr. Vanderbilt or any of his associates ever dreamed of accumulating. Members of labor unions and their families represent a part of the public—about 25 per cent of it. The welfare of these people is as casually ignored in the machinations of the new robber barons as is that of the rest of the public. A good case in point is the recent Westinghouse strike.

This strike lasted about 22 weeks. The average Westinghouse employee therefore lost in the neighborhood of $1700 or $1800 in wages. We are told by representatives of Westinghouse that this strike was primarily over the question of who was going to manage the Westinghouse organization. The management appointed by the stockholders insisted on the exercise of certain rights of management which the union denied, and the Westinghouse company, according to some of its representatives, was actually fighting for its life.

The strike was apparently one of those strikes which never should have been called in the first place, but once it was called, the people who started it could not very well back down, and so the employees lost 40 per cent of a year's pay with practically no apparent gain, or hope of gain. Not only did the employees of the company lose money, but its hundreds of thousands of customers were inconvenienced, to say the least, and at worst, subjected to serious losses by inability to get necessary equipment.

Can such a strike possibly be in the public interest? Everybody lost by it, as everybody loses by so many of these aimless strikes called to gratify the vanity of some labor racketeer, or to use the lives and welfare of great numbers of people to forward some scheme dear to the heart of the racketeer but of no possible benefit to the people he is supposed to represent.

Another good example of the truculent indifference of these labor tycoons to the public welfare is the strike going on in the steel mills in Birmingham. According to the newspaper reports, about 250 people who operate yard locomotives made some demands on the steel corporation which could not well be granted because they would have inevitably led to demands by some other unions which could not possibly be granted. This little handful of locomotive operatives went out on strike, and that automatically shut the steel mills down and threw 15,000 to 20,000 people out of work directly, and nobody knows how many thousands indirectly by shutting off the steel normally furnished by the Birmingham mills. Some of our readers tell us that they have had to put off construction planned for this summer because of this strike.

Is this sort of thing in the public interest? Should 250 people possess the power to throw out of work tens of thousands of other persons, to carry out some plan to extort money from an employer? Sometimes a dozen people or less can shut down a big plant and cause tremendous losses over some whimsical demand.

The whole system of labor racketeering as it has grown up in the United States is founded on the principle of legalized banditry. To seize and hold property for ransom is banditry, and it is the legalization of such banditry that has put such awful power into the hands of our labor unions. Following a disastrous strike, the president of a large railroad remarked, "I am afraid we have a difficult time ahead. The economic power of the labor unions seems to be limitless." He might easily have said "limitless and irresponsible." It is impossible to call any of these racketeers to account for any damage they do. Mob violence is termed a strike and is sacrosanct. A conspiracy to wreck a business and ruin its owners is looked upon by the courts as "a normal union activity." The seizure of property to be held for ransom, which is plain, unvarnished banditry, is perfectly legal.

There was a very interesting editorial on this subject in a recent issue of a Canadian newspaper, commenting on a wage increase granted to the railroad workers to forestall a strike and the immediate application of the railroads for a 15 per cent increase in rates. All too frequently corporations are timid about raising prices, or asking for increases in rates where public utilities are concerned, to cover the cost of strikes and labor exactions, but in this particular case all of the Canadian railroads applied for a rate increase the day they signed the contract covering the wage increases. This spotlighted the fact that it is never the employer who furnishes the money for these endless wage increases. It is always the employer's customers.

An influential Canadian news-

paper took note of the fact and commented upon it. Had the railroads waited six months to apply for their rate increase, the connection between the wage increase and the rate increase might have been largely lost on the public. This Canadian paper was pointing out that increased freight and passenger rates were not in the public interest, and were being granted because the railroad unions were strong enough to force them.

If more American companies would immediately pass on to the public cost increases imposed by labor unions, and take pains to advertise the fact that the cost increases were directly due to the wage increases, the public might have a less enthusiastic attitude toward this perpetual inflation of prices. The automobile workers all got their wages raised last year, but the automobile manufacturers were slow to let the public know that automobile prices had to go up. These price increases were largely covered up in a camouflage attached to new models, but automobile dealers tell us that it was not the new model that raised the price, but the new wage rate.

The people who make automobiles demand abnormally high wages, which they want guaranteed whether they work or not, and they want liberal pensions and other benefits, every nickel of which comes out of the pockets of the people who buy automobiles, and who might not be so happy about digging up money they can ill afford, to take such good care of pampered workers who exercise monopoly control over the production of automobiles.

Is the endless inflation caused by these seasonal wage increases in the public interest? There would seem to be something rotten about an economy which constantly reduces costs and increases prices. There has been a constant and steady reduction in the cost of making practically everything for the past 75 years; yet prices get constantly higher instead of going down. It would seem that nothing could be more completely in the public interest than reducing the cost of living instead of constantly increasing it. These ceaseless wage increases often produce inflationary effects years after they are instituted.

A recent newspaper paragraph pointed out that the steel industry needed to increase its productive capacity, but the present cost of a steel mill was practically prohibitive. Furthermore, many blast furnaces are now worn out and in need of replacement, but the cost of building a blast furnace is about six and one-half times what it was 15 years ago. The same situation exists in many industries where machinery which is worn out and needs replacement will cost three to ten times what the worn out machinery cost when it was new. Textile mills are keenly aware of this situation because it is now virtually impossible to build a new mill unless there is some tax finag-

Synthetic Squeeze Rolls Front or Back? Or Front and Back?

STAFF REPORT

Here are the answers to some of those perplexing problems on the performance of rubber or synthetic covered squeeze rolls on the slasher size box.

ALABAMA TEXTILE Operating Executives converged on Thach Auditorium, Alabama Polytechnic Institute, Auburn, Alabama, on April 28 to participate in an open forum on slashing and weaving problems. General chairman **Homer Roberts,** Anniston Manufacturing Company, presided.

Discussion leaders were: Slashing—**George Harris,** Fairfax (Ala.) Mill, West Point Mfg. Co.; Weaving — **Wendell Morriss,** Avondale Mills, Birmingham.

The officers elected to serve during the coming year were: **Cleveland Adams,** API, secretary-treasurer; **Calvin Warren,** Russell Manufacturing Company, Alexander City, director; **C. W. Brown,** Shawmut (Ala.) Mills of West Point Mfg. Co., director; **R. L. Alford,** Alabama Mills, Birmingham, vice-chairman; **Oliver Smyth,** Pepperell (Ala.) Manufacturing Company, general chairman; and **John Quenelle,** Avondale Mills, Sycamore, director.

SLASHING

Use Of Rubber or Synthetic Covered Squeeze Rolls. There were twenty-two mills involved in this discussion. Eight either had no comment or no experience. The others reported varying degrees of success ranging from poor to excellent. Refer to **Table 1** for results in eight of the mills.

Mill U has been using synthetic covered rolls for ten months at the finisher position and records a gain in size pick up of 2% to 3% over the older system of woolen-yarn-wrapped rolls. Also the finish is very smooth and is applied at an increased speed.

Satisfactory performance is reported with the roll in the back position as well. Rolls are buffed each six months, are nine inches in diameter, and, in the rare instances when additional weight is used, not over 150 lb are applied.

Mill F is presently testing a synthetic covered roll in the finisher position, and indications are that it may be satisfactory with sufficient weight added.

From an analysis of the results obtained in mills reporting experience with rubber or synthetic rolls, it appears that the rolls are more satisfactory when used in the back position. Four mills expressed satisfaction with the roll in either position, seven in the front position, and four were not pleased with front position performance.

Controlling Stretch at the Slasher. Analysis of the methods reported shows that nine mills pre-

ling possible to finance it. Practically all cotton mill machinery costs from five to ten times what it did when most of the operative mills were built, and in some instances the cost has increased more than 20 times. This has happened in spite of the fact that there have been great advances in machine shop practice in the last 25 to 50 years.

This constant inflation is certainly not in the public interest, but there is no hope of controlling it so long as the labor unions which keep it going possess unlimited power to endlessly raise prices. A textile mill manager mentioned recently that in his negotiations with the heads of the union which controls his employees he pointed out the dozens of similar mills that the unions had driven out of business by impossible demands. He also pointed out that his mill was running in good shape six days a week, but that if he had to raise prices, he might easily get down to four days a week, and might actually have to go out of business. He said that the labor racketeers replied, "We don't care anything about that. We want a wage increase for these people and we are going to get it."

This seems to be the typical attitude of the typical labor racketeer. He makes a living by getting wage increases for working people. If he happens to throw a few thousand people out of employment, and wreck a few hundred businesses, that is simply one of the hazards of his profession, and as this particular man said, he is not interested in it.

About the same time, the manager of another mill of about the same size and type as the one just mentioned said that his help had finally thrown out the union. They had found over a period of years that the only thing the union had really done for them was to collect dues, and they finally kicked it out. He said the mill was running well, and everybody seemed to be happy and he had great hopes of staying in business for a long time. He had bought some new and better machinery, and expected to buy more, and said that so long as he could keep the labor rackets out of his place he thought he could compete with anybody, but if the rackets got back in he might have to do as so many of his neighbors had done and close the doors.

Is all this labor racketeering in the public interest? Should these people who control great masses of working people be allowed to operate like so many bandits, free from the restraints of the common law?

The attitude of the people who run our labor unions is clearly and unmistakably "the public be damned," and we keep hoping that some day the public will get just as tired of being kicked around by labor racketeers as it did of suffering at the hands of the older type of robber barons.

TABLE I
Rubber or Synthetic Covered Feed Roll Results

Legend: S—Satisfactory U—Unsatisfactory	Mill							
	B	**D**	**G**	**I**	**L**	**N**	**O**	**R**
Roll Position								
Front	U	S	U[1]	—[2]	S[3]	S	—[4]	S
Back	S	S	S	S	S	S	S	S
Front & Back	—	—	—	U	S	—	—	S
Speed yd/min	45-70	68	40-60	—	60	50-80	55-60	—
Moisture Content (%)	7½	6-7	8	—	6-7	7½	7	—
Size Content (%)	10-11	12-13	10	—	12-18	4-10	12	—
Stretch (%)	2	1½-2	1½	—	Under 2	—	1¾	—
Yarn Size	8s-23s	21s to 25s	8¾s-14¼s	16½s, 16s	12s to 34s	12s/2 to 20s	21s	—
Total Ends	—	1750 to 2500	1800 to 3200	1000 to 2232	2134 to 8508	308 to 1940	4000	—
Roll Diameter								
Front	8"	8 9/16"	—	—	7 9/16"	9"	—	6¾"
Back	8"	8 9/16"	6"	7⅜" & 8⅜"	—	9"	8½" & 9½"	5¾"
Roll Density								
Front	—	—	—	—	50	—	—	—
Back	—	—	1"	—	—	—	45	2½"
Buffing Schedule								
Front	15 mo	—	As needed	—	—	12 mo	—	12 mo
Back	15 mo	—	As needed	—	—	3 mo	—	24 mo
Total Roll Pressure								
Front	750	550	—	—	1220	1000	—	—
Back	540	450	—	388 & 550	960	1000	—	—
Pneumatic Loading	No experience	No comment	No experience	No experience	S	S	No experience	S

1. Running colored work which glazes when roll is used on front.
2. Running two slashers. After six months rolls do not need buffing.
3. Back roll buffed and moved to front when size pick-up gets too low. Good results on pneumatic loader.
4. Rubber covered back rolls on all slashers, and one slasher with synthetic roll in front.

NEW OFFICERS of ATOE are, left to right, Cleveland Adams, Calvin Warren, C. W. Brown, R. L. Alford, and Oliver Smyth.

fer to measure stretch between the size box entrance and the delivery roll at the front of the slasher. However, there are seven distinct methods involved. Four mills measure from the back section beam to the loom beam; one from front section beam to the loom beam; one from a delivery roll reading checked against warper yardage; one from back section beam to size box entrance, to loom beam. Another checks at all points: back beam to front end, back beam to front section beam, around dry cans, from size box to front end.

Mill G ties a contrasting end at the back section beam, places a yardage counter on that beam, and runs the contrasting end through to the loom beam where another counter is then placed. After 200 yd are run through, another contrasting end is then run through to the loom beam. The stretch is then determined from the difference in yardage recorded on the two counters.

The mills agree that the maximum stretch for dry sets is two per cent (the minimum reported was one per cent). **Mill I** considers the proper stretch for dry slashing to be 1½ per cent; for wet slashing, 2½ to 3½ per cent. **Mill O** reports five to six per cent stretch for rayon. Excessive stretch at the slasher causes an increase in warp breakage.

Following is a tabulation of stretch measuring frequencies and the number of mills using each:

Time Interval	Number of Mills Using It
Each eight hours	1
Each eight hours and at each set	1
Weekly	5
Weekly and at cloth change on delivery roll	1
Each set	4
As needed	2
Every ten days	1
Yearly	1
Entire yardage (from mounted counters)	1
No schedule	2

Nine mills are using some type of manual or synchronous stretch control at the slashers. Six others add or remove wrapping at the delivery roll to control tension. One uses only weights at the section beams for control, and one reports using weights at the section beams as well as tension controls.

How Alabama Mills Check Size Viscosity. "Does viscosity affect the type and weight of squeeze rolls required?" Three mills reply that it does, and three that it does not. There is one guarded reply in the affirmative. Fourteen mills report "no experience" or "no comment."

Mill I discussed the question at length: "Viscosity does affect type and weight of squeeze rolls under normal conditions. . . . Up to a certain point more size can be squeezed into the warp. If too much weight is applied, more size can be squeezed out than is desirable. A variable pressure is needed under conditions such as lap forming on squeeze roll and causing a trench on the roll; when two-ply and singles yarn are both run in the same set; when new woolen yarn is wound on the squeeze rolls. . . "

To determine or to control the viscosity of the size mixture, four mills use viscometers, four report no methods, two use some type of flow device, and three depend only on rigid adherence to preparation and cooking instructions. **Mill D** uses a flow device made from a 2″ section of bronze pipe of 4⅜″ outside diameter, and 4″ inside diameter, to check viscosity of size. The concave bottom is fitted with a 1″ plug, 1″ long, and containing a ⅜″ hole. The flow time of 212 F size from this cup is kept within eight seconds of a norm.

Homogenized vs Thin Boiling. What improvements can be expected by using homogenized size? **Table II** shows how Alabama mills compare in the results obtained. The numerals reflect the number of mill replies.

Multi-Motor Drive Benefits. Efficiency is improved in nine mills using multi-motor drives. The reported production increases are attributed to the higher speeds made possible, and to added yarn on the

TABLE II

Results With Homogenized Size

	More Pick-Up?	Shed As Much?	Penetrate As Much?	Up Weaving Efficiency?
Yes	5	5	5	3
No	1	5	2	4
No Change	2	1	—	2
No Tests Made	1	1	1	1
No Comment	3	3	4	2
No Experience	9	7	9	10

loom beams. Uniformity also increases.

"Is expenditure for multi-motor drives justified by lower cost in slashing, or in increased weaving efficiency?" Twelve mills reply "yes." Among the improvements enumerated are more yards on loom beam, more even start-up, more uniform warp, less thread waste, and greater slashing efficiency in general. Slashing speed is increased in five mills.

WEAVING

Cleaning Posts and Ceilings. The overhead cleaning of posts, ceilings, and light fixtures is done with compressed air in fourteen plants. Five mills prefer to use brooms or brushes for that operation.

Most of the mills report that drop wires, grates, harnesses, reeds, and backs of looms are cleaned on a 24-hr schedule. Some plants, however, responding to local needs, clean more frequently; and some clean only when the warp runs out.

Here is the cleaning schedule utilized in **Mill J:**

> "We blow off lint from ceiling and air ducts once a week. We wipe the light fixtures off once a week. This work is done while the looms are running.
>
> "Loom cleaner blows off and oils looms. Harness cleaners clean harnesses and reed caps. Loom blowers blow off the looms while they are running.
>
> "Loom cleaners blow off and oil the looms when the warps are out. Loom blowers blow off all looms once every 24 hours. The harness cleaner cleans harnesses and reed caps once every 24 hours.
>
> "Loom cleaners clean and oil about 18 looms per shift. Loom blowers blow off 202 looms per shift. Harness cleaners clean the harnesses and reed caps on 160 looms per shift.
>
> "Each loom gets 7 minutes of cleaning time or .116 manhours of cleaning time per loom per 24 hours."

Nylon Monofilament in Lieu of Bristles and Fur. In using nylon monofilament in place of bristles and fur, six plants report satisfactory performance; six, unsatisfactory. Longer life, even tension, fewer breaks, and lower cost are mentioned among the satisfied users. Dissatisfied users report that it cracks easily, burns in two, causes more mispicks, broken picks, and center fork loops.

OUTSTANDING TEXTILE SENIORS at Alabama Polytechnic Institute, who were presented awards during the Alabama Textile Operating Executives annual spring meeting on the Auburn campus by **Holmes Floyd,** (left), chairman of the Board of the Alabama Cotton Manufacturers Association, are: (left-right), **William Francis Dolan,** Cedartown, Ga., Phi Psi Award; **John R. Spivey,** Roanoke, ATOE Committee Award; **James R. Eichelberger,** Roanoke, NACM Student Honor Medal; and **Guy H. Kaylor,** Talladega, Chattahoochee Valley Phi Psi Alumni Award. **Henry Ellis Austin** of Wetumpka who won the AATT Award was not present for the picture.

Mill F has found nylon useful for bristles, but has not found a satisfactory replacement combination for fur. There has not been a substantial change in quality or loom stops. The filament used is of 0.003 strand size, is placed in the position formerly used for bristles at an angle of 45°, and is allowed to loop and contact the bobbin side ½" from tip. The filament life is 50% greater than that of bristles. Filling is 14s yarn on an 8¾" bobbin.

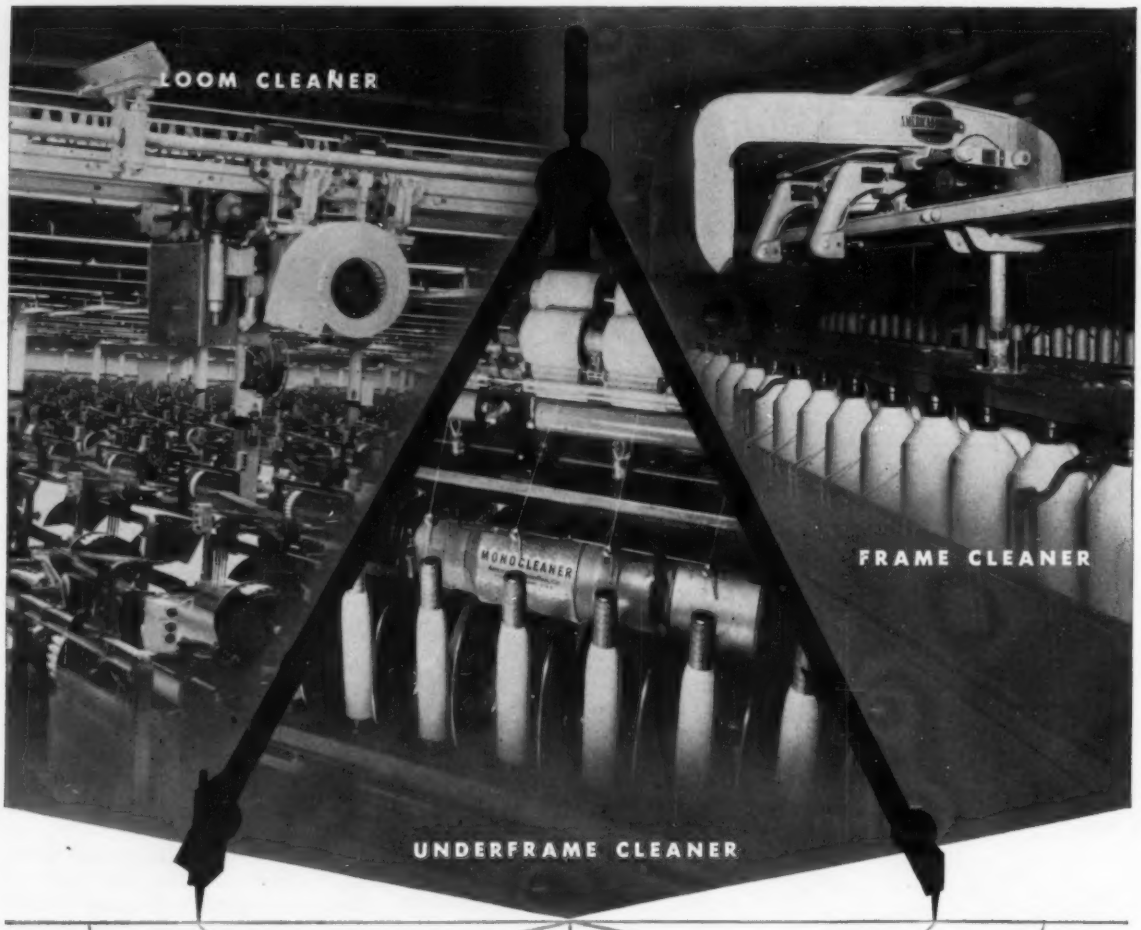
Mill P reports that quality is lowered by an increase in broken picks and mispicks. Loom stops have increased approximately one per cent. Both 25-lb and 50-lb break monofilament have been tried at every possible angle in the shuttle. On yarn numbers from 4s to 35s, the heavier nylon lasts longer but cracks badly.

Portable vs Stationary Tie-In Machines. Eight mills report that warps can be combed as straight on the portable machine as on the stationary type. Four other plants disagree.

Comparative waste experiences on the two processes show that on the portable units in two plants more waste is made. Three mills report less, and six say there is no difference.

Responding to a request for loom cleaning procedures when warps run out, seven mills using portable machines report cleaning is done with compressed air. Of those seven, two wrap the rolls of cloth to prevent damage during cleaning. Another, **Mill P,** reports that the routine cleaning done renders unnecessary any warp-out cleaning other than that of wiping the hand rail and the battery. **Mill O** removes strings from shafts, and wipes or brushes the loom clean.

One important advantage quoted in favor of stationary machines is the reserve of tied patterns which need only to be transported to the loom, set in, and pulled over. To reduce the severity of excessive warp run-out, some plants use a "roving" tie-in hand, or utilize machines with detachable knotting units. Plants using the latter report that warps can be leased,



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brushed, and otherwise prepared well ahead of the actual tying operation.

Pattern handling during tying-in is eliminated whenever the portable machine is used. Shuttle and reed wear are reduced by not having a different reed alignment problem accompanying each warp change.

Cloth Quality Control in the Weave Room. As an example of how Alabama operating executives approach the problem of weave room quality, the program of **Mill O** is given in the accompanying box.

Control of Quality in the Weave Room

(1) Supervision checks the cloth weaving on all looms each shift.
(2) Supervision checks all new warps.
(3) Supervision checks some preventive maintenance work of loom fixers each shift.
(4) Weavers inspect cloth and initial face of cloth beginning each shift.
(5) Weavers patrol fronts each fifteen minutes.
(6) Smash hands check draw, etc., of each new warp.
(7) Fixers perform specified routine checking each shift; that is, boxing shuttles, warp tension, thread cutters, shuttles, etc.

Follow-Up on Second Quality Cloth by Weave Room Supervisor

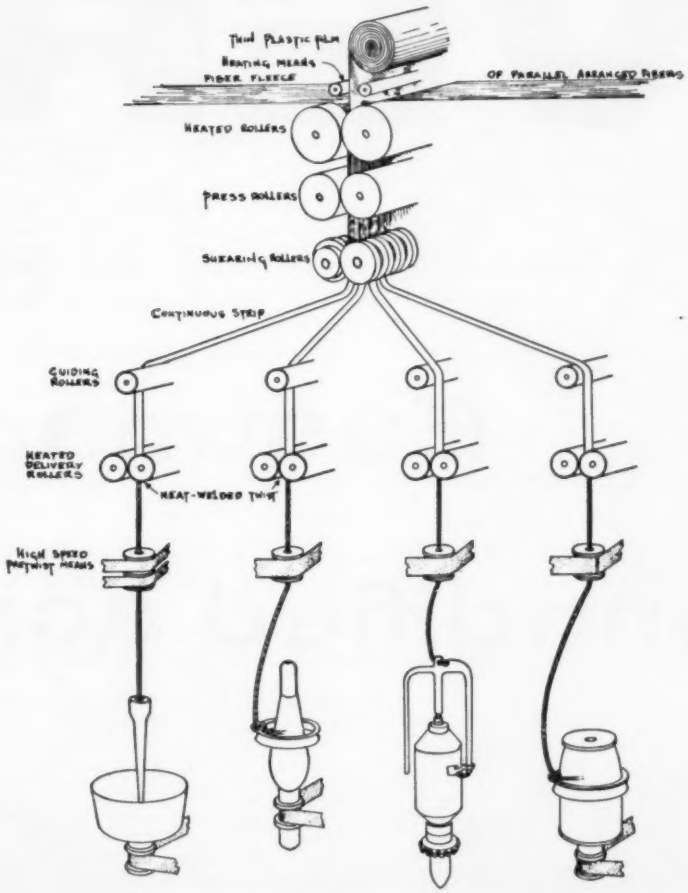
(1) Seconds report received daily. The amount of seconds, loom number, and cause are posted daily on weaver's job. Fixers are given seconds slips from this report and check these looms, returning the slips to supervision.
(2) Defect tickets are secured from the cloth room three times each shift. Those looms making seconds are checked by weaver and fixer with slips being returned to supervisor.
(3) Seconds are returned to weave room and shown to responsible person.
(4) Cloth room calls weave room to report special cuts of seconds.
(5) Repeat looms are reported from quality control. A supervisor checks the loom, makes written record for fixer, tags the loom, and has the next roll of cloth given a special quality check in cloth room

Chemical Heat-Welding Action Is Basis of "Spinning and Weaving" Processes

A CANADIAN textile engineer, Emilian Bobkowicz, has invented and developed a method for making yarn which is based on chemical heat-welding action rather than coherence, according to information contained in the 1955-56 "International Yearbook of the Cotton Trade Journal." Also, the same principle has been applied to a fabric producing process invented by Mr. Bobkowicz. Following is a brief description of these developments. A detailed technical report is obtainable by writing to the inventor c/o *The Cotton Trade Journal,* Memphis, Tenn.

"Spinning." Two (or one) fleeces of fibers arranged parallel, formed by any suitable conventional means, are heat-welded one to each side of a very thin thermoplastic nylon, acetate, saran, polyethelene, etc., film while passing first through heat-welding and then cooling press rollers to form a continuous fibersheet.

By means of shearing rollers this



HOW YARN IS MADE by the chemical heat-welding method. Four different methods of winding the yarn onto a package are illustrated.

the facts about

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What the textile industry wants today are fibers that fit the job. And Verel is a specialist. It has its own set of properties, many of which can be heightened or controlled to fit specific needs. Look over this check-list and see how Verel can meet your special requirements.

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( ) **Controlled heat shrinkage** which enables you to get almost any degree of bulk, density and resilience you want. Both stabilized and unstabilized forms of Verel are available.

( ) **High moisture regain** contributes to freedom from static in mill processing and gives greater wearing comfort. Actually Verel has a moisture regain double that of any acrylic fiber today.

( ) **Outstanding whiteness** which ordinarily makes bleaching unnecessary.

( ) **Excellent resistance to chemicals** covering a wide range of acids and alkalis.

( ) **Good fire-resistance** which permits manufacture of drapery, pile-type, and napped fabrics free of flammability hazards.

( ) **Good press and shape retention.**

( ) **Good wrinkle recovery.**

( ) **Low pilling tendency.**

( ) **Other important advantages.** Verel has a high tensile strength, excellent stretch or elongation and good abrasion resistance. It is immune to moths and mildew...weather-resistant and non-allergenic.

First appraisals of Verel show that it has an important future in such varied fields as men's and women's apparel, knitwear, socks, pile-type fabrics, home furnishings and industrial fabrics.

Its special properties make Verel particularly useful in blends with cotton, wool and other fibers. Right now mills and manufacturers are experimenting with Verel staple, available in 2, 3, 5 and 8 deniers per filament, at $1.10 a pound delivered east of the Mississippi River. If you'd like to work with Verel, too, get in touch with the Eastman sales department. Write or phone your nearest Eastman Sales Office.

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fiber sheet is then divided up into a number of continuous strips of any desired width. Each strip is then twisted by any conventional twisting means right after passing through heated rollers.

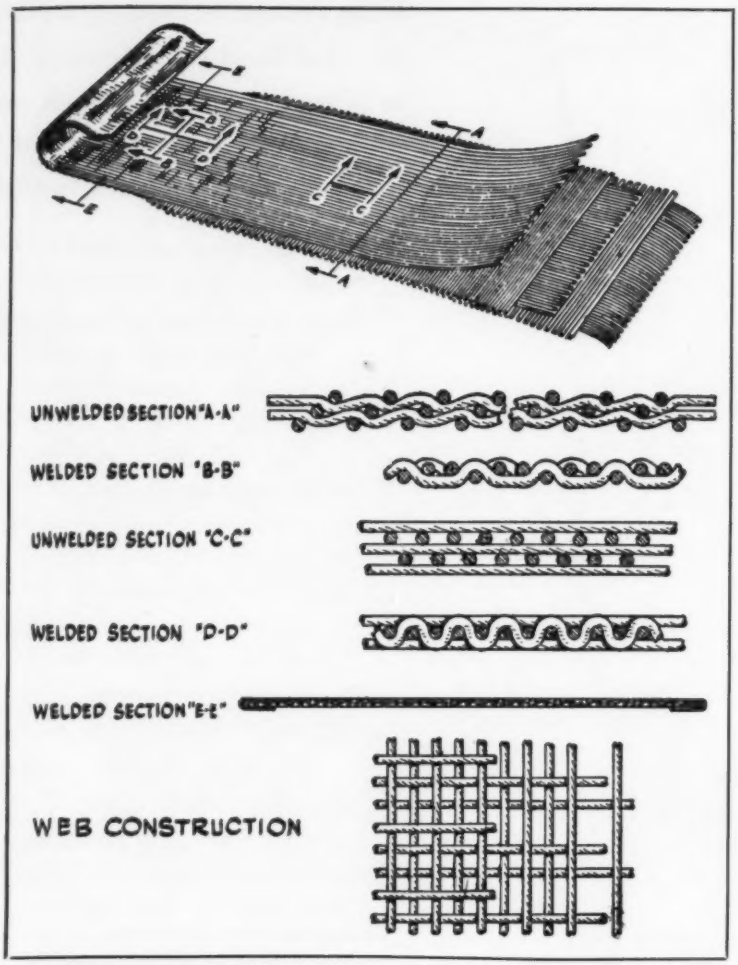
Due to instantaneous coagulation of the softened bonding agent, it forms a heat-welded, twisted, solid, strong, and smooth yarn suitable for weaving without sizing. Some of the bonding agents can be dissolved and regained during the finishing process of the ready weave.

This process entirely eliminates drawing operations. Labor costs per pound of yarn are said to be extremely low.

Any conventional spinning or twisting machine can be rebuilt, with minor changes, to suit the new process. Special high speed automatic spinning units have, however, been developed, on which any type or composition of fibers can be spun.

Yarns and twines of almost any desired properties, construction, and composition can be economically produced by this universal process which can be used for spinning of cotton, flax, jute, sisal or any other fibers.

Mr. Bobkowicz applied the same heat-welding principle to a novel weaving process invented by him, forming a fabric.



HIGH-SPEED PROCESS for producing non-woven semi-plastic, heat-welded textile fabrics from semi-plastic yarns.

"Weaving." The weaving process uses a specially developed weaving machine which is capable of applying, juxtaposed on top of each other without interlacing, 3, 4, 5, or more layers of semiplastic warp and weft yarns (produced by the inventor's spinning process) to form a "Nonwoven-Yarnweave."

The yarn layers are in this arrangement passed through a set of heat and cooling press rollers to heat-weld them together strongly at contact points to form a non-interlaced, yet strong yarn weave with the same characteristics of appearance, strength, porosity, and hand as a conventional plain weave. Each yarn layer, comprised of 100, 500 or more yarns, can be applied in a second or a fraction of it. The nonwoven-weave has also a heat-welded strong selvage.

This automatic high speed machine and process are said to be particularly suitable for mass production at a speed of about one yard per second of non-woven weaves for a wide range of industrial and packaging purposes for bags, upholstery, etc. Here again labor costs per yard will become a minor factor, it is claimed.

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For example—if you are dyeing "Match Mates" of a nylon/Vicara* sweater and a wool skirt . . . Xylene Fast P dyes on the nylon/Vicara will give you the color match you need to go with the wool skirt.

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*T.M. of Virginia Carolina Chemical Corp.

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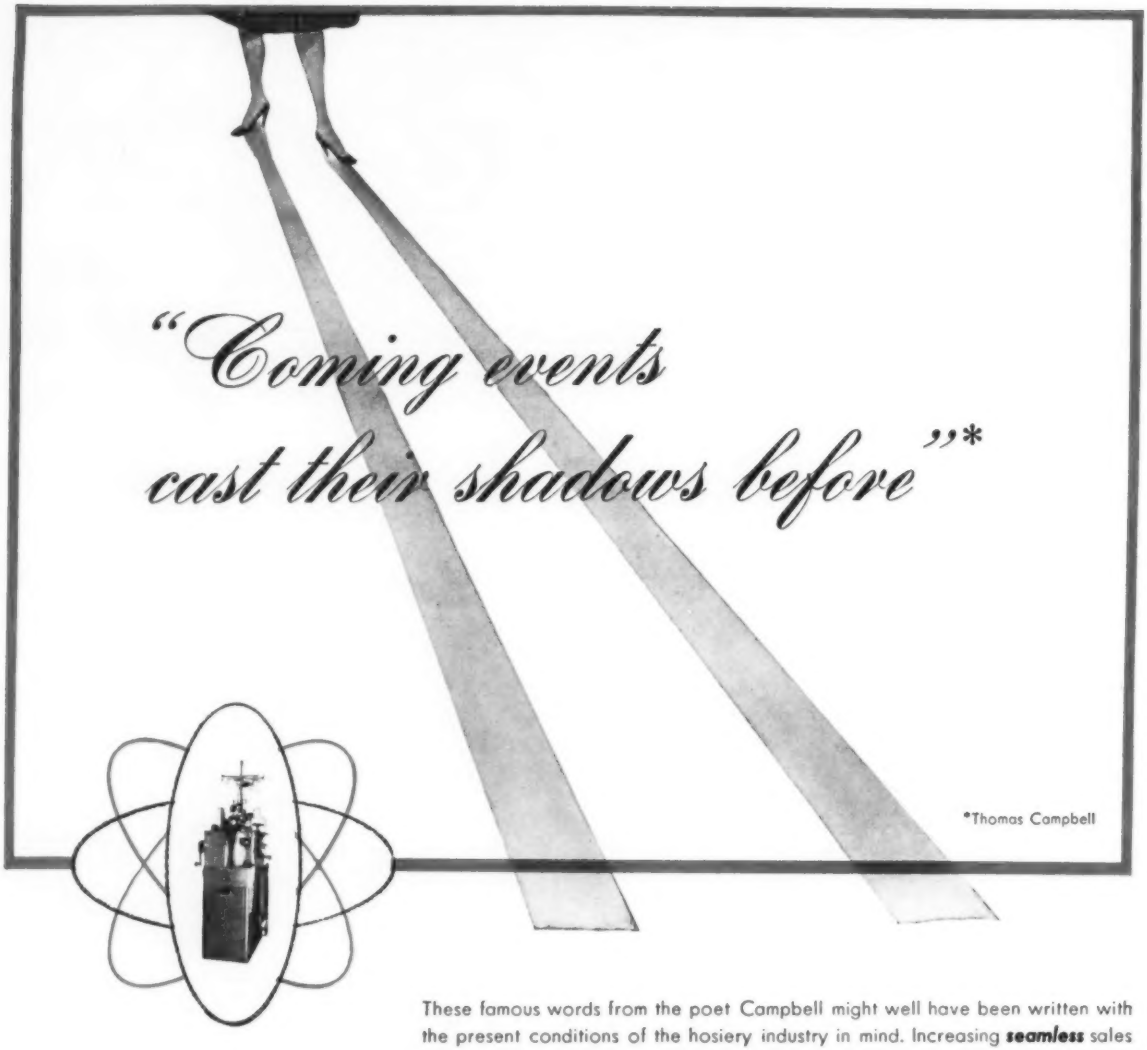
SANDOZ THINKS AHEAD WITH TEXTILES



These famous words from the poet Campbell might well have been written with the present conditions of the hosiery industry in mind. Increasing **seamless** sales have been casting ever stronger shadows across the sales curve of full-fashioned hosiery.

Increased production facilities at Fidelity are aimed to help hosiery manufacturers take full advantage of the tremendous market potential for **seamless**. Forward-looking manufacturers know that the electronically controlled "400" produces the finest quality **seam-free** stockings possible—at the push of a button!

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Knitting Section

Two Mills Report Experience with Temperature Controls on Full-Fashioned Hosiery Machines

Less needle breakage and waste when starting machines

STAFF PREPARED

EXCLUSIVE

ASHEBORO HOSIERY Mills, Asheboro, N. C., have a differential temperature controller (electronic thermostat) operating on a 60-gauge Reading full-fashioned machine with good results. This equipment has been in operation for more than six months and saves four hours of down-time and attendant waste in every fifteen shifts of operation.

According to officials at this mill, four hours were lost each week as a result of narrowing holes and needle breakage attributed to cold starts on Monday mornings. Needles and ruined stockings cost between $5.00 and $10.00 every Monday on this one machine.

Upon installing the temperature controlling equipment, which was manufactured by Minneapolis-Honeywell Regulator Co., 98% of the difficulties encountered on Monday morning starts have been eliminated, according to E. F. Pritchard, superintendent at Asheboro.

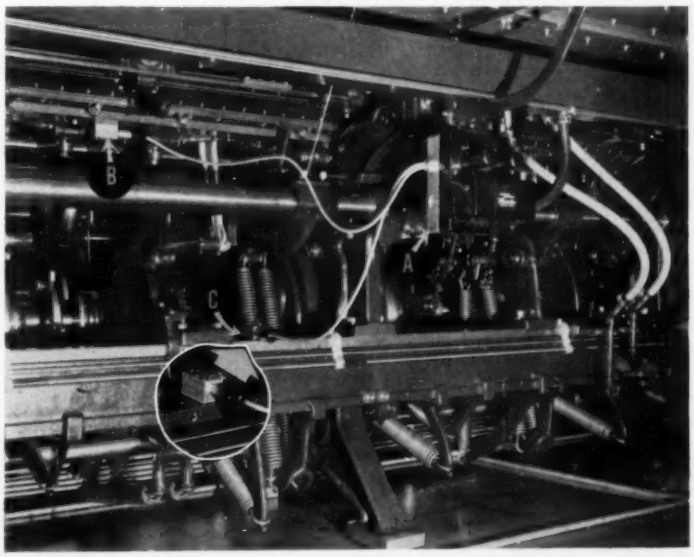
Control Function. The machine is approximately 53 feet long, and a portion of the unit tends to run at a different temperature than the remainder of the mechanisms, thereby having an adverse effect on over-all machine performance and operation. The temperature control device simply assures uniform temperature of the metal parts throughout the affected area, thereby forestalling troubles arising from dimensional changes caused by temperature variations. The device also serves to preheat the machine for Monday morning starts.

This mill found that at normal operation in a heated, air-conditioned room, the bottom rail ran about 5 F cooler than the top rail (center bed). This difference is maintained constantly by the temperature controller, with resultant smoother operation and trouble-free performance. The temperature is held within ½ F at this mill. New machines of fine gauge are now factory-equipped with a similar device.

Location. The control is mounted

ELECTRONIC TEMPERATURE CONTROL (A) installation showing sensing elements (B and C) mounted in aluminum blocks on center bed and lower rail.

Photo courtesy Miller-Smith Hosiery Mills, Delano, Tenn.



Nearly every competitive advantage starts with the machine

Study the technical superiorities and production economies of this *improved* "Reading 100". Watch it in action. Check its flexibility and smooth, high-speed operation. See the quality of its knitting. Then figure the arithmetic of this *improved* full-fashioned knitting machine and know what it can mean to you in higher quality and lower per-dozen costs.

The "READING 100"
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IN THIS SECTION

Mill Experience with Temperature Controls on Full-Fashioned Hosiery Machines 129
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New Equipment Parade 163-177

Complete contents on page 3

on a bracket at the base of the yarn cabinet (see illustrations) on the back side of the machine. The heating cables are attached to the center bed and make a loop running full length of the bed.

Description. The mechanism includes a thermostat with two sensing elements (one contacting the top rail, one contacting the bottom rail), the heating cable, and a disconnect switch box.

No disadvantages have been noted to date in this mill. Actually, the mechanism is inactive most of the time after the machine has been in operation for several hours. A red light at the end of the machine is illuminated to indicate when the heating element is on. No maintenance has been required to date.

Stretch yarn in 15 denier is being run on the machine at the present time; however, regular yarn was run with comparable results when the control was first installed. This machine is operated 6000 hours per year, and the electronic tubes in the thermostat are expected to serve two years, based on experience with other electronic tubes in use in the plant.

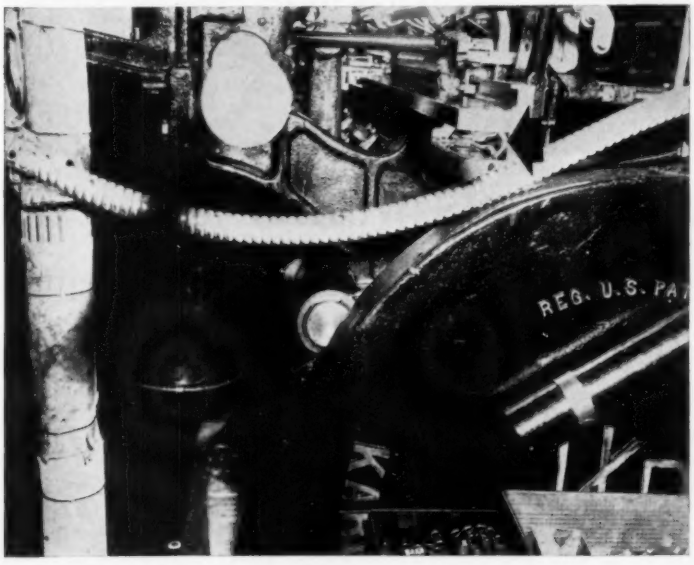
Conditions. Eleven other machines are operated in the same room with the control-equipped unit which is located among the other machines and away from walls. Room operating conditions are maintained at 82 F and 50% RH.

The knitting room is on the ground level and has a concrete floor and 14-ft ceiling. This knitting room is adequate size for the number of machines in it without excessive drafts, cold spots, hot spots, or other conditions to aggravate normal operating conditions. The mill operates a total of 46 full-fashioned knitting machines.

Differential Temperature Control Helps 75-Gauge F-F

Belton Hosiery Mills, Belton, S. C., installed a differential temperature control mechanism on a 75-gauge Kalio full-fashioned knitting machine about July, 1955. The device was found necessary because operating difficulties were attributed to differences of temperature at different parts of the machine.

HEATING ELEMENT traverses the entire length of the center bed. Arrow points to exposed portion of the heating element on this Kalio 75-gauge machine.



The temperature difference resulted in malfunction of the narrowing mechanism, which caused narrowing holes and similar defects at this location in the stockings.

Several types of heating elements were tried to obtain uniform heat throughout. Steam pipes, hot air pipes, and thermostatically controlled electrical heating elements were tried with varying degrees of success.

The temperature control system currently in use has proved far more satisfactory than any other tried in this mill. About eight hours time was required to install the mechanism on this machine with two men working full time.

No maintenance or trouble has stemmed from this source since it was put into operation. Formerly, the temperature of the jack bed varied as much as 4 F before the

NO NEED TO GO OUT OF THIS WORLD looking for the right needles for knitting, sewing, felting or tufting. Whatever the size or type you need, just pick up that earth-bound phone and call **THE TORRINGTON COMPANY.**

Torrington, Conn., U.S.A. Branches in New York, Philadelphia, Boston, Chicago, Greensboro, St. Louis. Pacific Coast Representative: E. G. Paules, Los Angeles

old type thermostat operated. The device currently in use maintains a constant temperature within ±½°. A 4 F change in temperature was found to be sufficient to knock the machine out of production.

Now weekend drops in temperature no longer pose a problem. The heating elements also provide adequate control when the air conditioning or plant heating systems have to be stopped for repairs or maintenance.

This mill is well pleased with results achieved by the differential temperature control, and estimates on amortization are fixed conservatively at six months, based on waste savings at Monday morning startup alone.

Nylon in 10-denier monofilament is used on this machine. Management considers the device good enough to justify changing another 75-gauge Kalio to this type of thermostat. The mechanism embodies a Minneapolis-Honeywell electronic temperature control.

How to Knit Agilon Stretch Yarn

BY CYRIL G. EVANS
Project Supervisor
Deering Milliken Research Corp.

ABSTRACT*

TWENTY-, THIRTY-, and forty-denier Agilon yarn may be knit using conventional techniques. The following remarks are directed mainly to the knitting of yarns up to 20-denier and more specifically 15-denier monofilament.

Use Low Tension. The secret of success in knitting Agilon is to use even, low tensions; all the precautions discussed here are aimed directly or indirectly at getting the minimum tension variation in the yarn at the knitting needles, and holding a steady tension on the yarn from the supply package to the knitting needles.

Agilon yarn is not lively as pulled off the package, but in monofilament if twist is allowed to back up between the supply package and the knitting needles then the region of high twist will be lively. By the nature of nylon, any liveliness is greatly exaggerated when the humidity falls below 50%.

In the laboratory, Agilon may be knit without any finish on it at humidities above 60%. In most mills the humidity is well below 60% and a finish must be used; its function is to apply a film of plasticizer to the surface of the yarn so as to condition it to the mechanical state it would be in at 60% R.H. without a finish on it. The finish must also be a good lubricant and allow free delivery of the yarn from the supply package.

Supply Package Requires Cap. In full-fashioned knitting a cap must be used on supply packages to cover rough places on the nose of the package. The cap must also be able to hold a steady tension on the yarn during the intermittent action of the machine so as to prevent the formation of kinks in areas in which a high twist has been backed up; this tension also reduces the level of twist in these areas.

A cap fitted with nylon bristles, suggested by Mary Grey Hosiery Mills, works very effectively. Dancing weight tensioners should on no account be used with monofilament yarn.

On a Wildman full-fashioned knitting machine, a conical cap with bristles is used on top of the supply package. The guides are arranged so that the yarn path is not turned through an angle of more than 60° by each guide and the dancing weight tensioner is bypassed. The tension is adjusted by raising or lowering the guide immediately above the supply package.

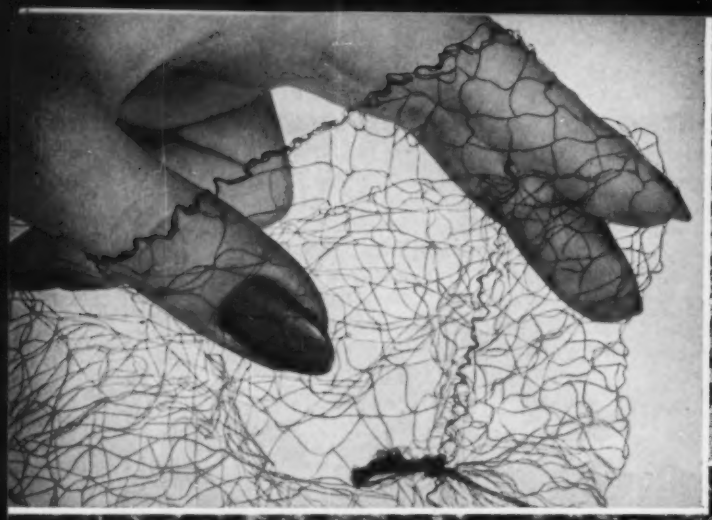
In circular knitting a cap must also be used, but here, while it holds the yarn off rough places on the nose of the supply package, its chief function is to control the balloon tension, and this is done in conjunction with the guide eye set above the cap. The cap and guide eye are so arranged that the tendency to form a double balloon as the yarn runs off the package is avoided.

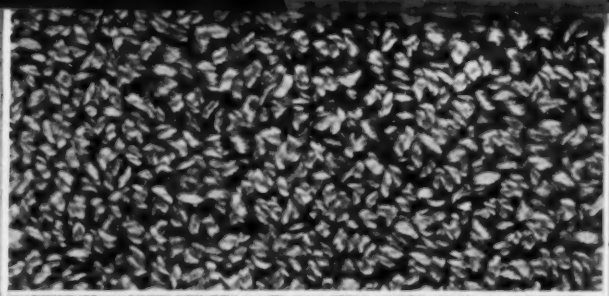
As soon as the single balloon becomes unstable, the balloon tension rises; it falls again when the balloon reverts to stability. If yarn is taken from a tall package without a balloon control, somewhere on the way down the wind on the package the balloon may change its form and alter the tension level right through the knitting machine. This will result in a series of rings in the hose corresponding to the package wind. Use of too low a knitting tension or not lining the guide with the axis of the supply package gives a similar defect which, broadly speaking, may be called cyclic variation of tension.

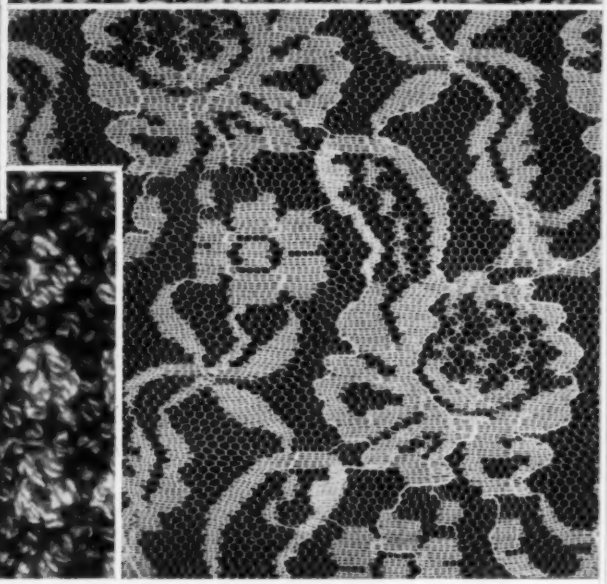
Of course, all normal precautions to reduce tension plucks or cyclic variation in tension should be taken. The supply must be set centrally under the first guide eye; the yarn must not hang momentarily anywhere on the package or on the cap. The wind of the yarn on the supply must not come very close to the underside of the cap and the yarn should not be allowed to fall off the package in unwinding and get trapped under the end. The guides used in the machine must not be used after a groove has been cut into them by the yarn.

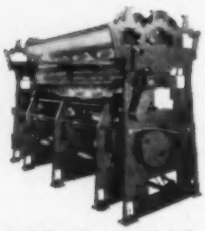
Finishing. The first operation in finishing Agilon hose after seaming or looping is to develop the crimp in the yarn. This is done by a scouring procedure. In cold water the crimp does not develop to its full extent, and final development is done at 180 F. This is

*From a paper presented at a meeting of the American Association for Textile Technology, Inc.









World's fastest 10-bar Raschel knitter

—from hairnets to heavy carpet

ALL KNITTED ON THE KIDDE KNITTER

Why is the Kidde Knitter the most widely used Raschel type machine in the world? The answer is exceptional versatility coupled with outstanding speed and reliability.

The range of gauges of the Kidde Knitter will produce anything from the sheerest tulle to heavy carpet — all with equal dependability. And special attachments make it even more versatile:

- A sinker bar produces tighter stitches . . . eliminates selvage troubles.
- A power let-off attachment for controlling rubber beams improves quality of elastic fabrics.
- A power yarn feed assures uniform quality at high speeds and permits the use of large warps.

These are just a few of the advantages that account for the popularity of the Kidde Knitter, both with the knitter who specializes in one type fabric and the knitter who depends on flexibility to meet the requirements of his trade. If you specialize in any one of the following fabrics . . . elastic fabrics, tulle and various types of net, lace and lace edgings, shoe cloth, laundry nets, sport shirtings or carpeting . . . or if you need versatility encompassing many of these types . . . the Kidde Raschel Type Knitter can give you faster, more economical, more dependable production.

SEND FOR FABRIC SAMPLES

We will gladly send you swatches of fabric and complete information on the range, speed and quality of production possible on the Kidde Knitter. Write today for details. Dept. KA2.

Kidde

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS
BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS

MANUFACTURING CO., INC. — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

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important to the complete and even development of the elasticity.

The hose are first put into cold water in a wash wheel and agitated for some 30 minutes. This agitation allows the slight variations in twist to equalize with the assistance of the lubricant present on the yarn and without restraint from the crimp.

Sufficient detergent to give a good running suds when the water is hot is then added and agitation continued in the cold long enough for the lubricant to be removed completely from the yarn so as to get even wetting (30 minutes).

The temperature is then raised to 180 F in not less than 15 minutes and is maintained for 5 minutes. This allows the crimp to develop fully and the suds provide lubrication for the yarns to slide on each other as the crimp develops.

Two rinses in cold water finish out the procedure. A boarding lubricant should be added to the final rinse if it is proposed to board the undyed stockings; however, the stockings may be dyed in the same wheel, in which case the boarding lubricant should be added after dyeing.

If the stockings are dyed before boarding, some care has to be exercised in choice of dyestuff to avoid light colored patches in the welt, toe, and heel areas, apparently resulting from poor penetration by the dyestuff. If stockings are boarded before dyeing, there are no unusual difficulties in getting a level shade.

The stockings may be boarded in the conventional manner, except that small boards must be used as, once boarded, the stocking will not shrink to a size smaller than the board. Every manufacturer will have his own ideas about the boarded size and shape of the stocking, but as a guide the distance from heel to top of welt should be about 20 inches. The minimum ankle width should be about 3 inches and the calf width about 4½ inches.

"Batch" Production Control System Assures Quality

STAFF PREPARED
EXCLUSIVE

MEN'S T-shirts, athletic shirts, briefs, two-piece underwear, and polo shirts are made from the cloth produced at Oneita Knitting Mills, Andrews, S. C., a progressive mill which handles cloth production on a "batch" system.

Many mills process tubular knit goods on the "lot" system, but Oneita has found that the batch system works better to assure that all components of the garments have matching shades—that is, collarettes, cuffs, sleeves, pockets, and gussets are made of fabric of the same shade or color.

In the lot system, the mill sends

FORM 1. First cloth identification and check on production is provided on this form. Note style numo.r a: top of form; batch number is at bottom on right.

CLOTH ORDER
ORDER NO. 112555 A
STYLE 108
STITCHES 32
SPECIFICATIONS 24/1 C.P. XYZ Mfg. Co.
BLEACHERY
FIN. SPECS. White-Tube-Tex & Ormandale

CYL. SIZE	15	15	16	17	19	20		DW/PC	20&2x Total
FIN. SIZE	16	17½	17	19½	21½	22½			
POUNDAGE	560	510	330	1890	1400	190		100	100 5030
11/18	—	—	167.5	77.4	83.2	—		—	—
BALANCE	560	510	162	1743	1317	190		100	100
11/21	41.1	511.10	173.5	1721.4	1381.10	190.8		104.8	104.2
BALANCE									
BALANCE									
BALANCE	①	15	10 Rolls	20	20	4		5	3
BALANCE									
BALANCE									
BALANCE									
BALANCE									
BALANCE									
BALANCE									
BALANCE									
BALANCE									
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BALANCE									
BALANCE									
BALANCE									

SMALL (Oz.)	MED. (Oz.)	LARGE (Oz.)	X LARGE (Oz.)
200	600	400	50

SHIPPING DATE
STYLE 4104-5186
LOT #
BATCH # 120

FORM 2. Second check is on bleachery tally sheet which shows finished size. Note batch number and size number at top.

BATCH NO. 120
STYLE 108
LOT NO. 433
CYL. HEAD SIZE (ON ROLL) 15
WIDTH TO BE FINISHED 16

ONEITA KNITTING MILLS
ANDREWS PLANT
BLEACHERY TALLY

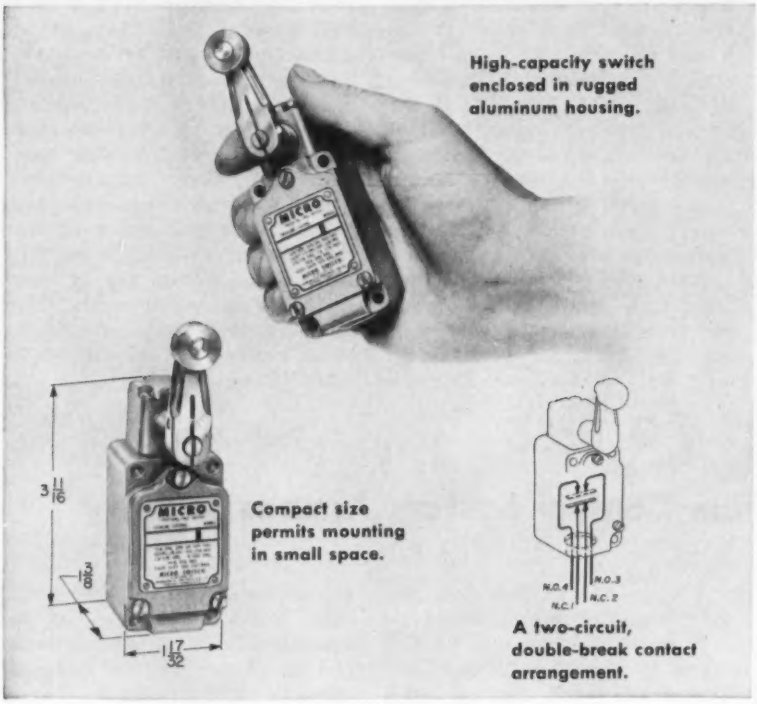
PAGE 1 OF 4
16 ROLLS
DATE 11/23/55
WASHITOUT BLEACHERY SUMMERVILLE, S.C.
AND. SPECS. ATTACHED

ROLL NO.	WEIGHT	FINISHED WEIGHT	FINISHED YARDS	ROLL NO.	WEIGHT	FINISHED WEIGHT	FINISHED YARDS
13659	32 lb. -12 oz.						
13663	33-8						
13665	30-12						
13668	43-0						
13671	32-4						
13672	38-12						
13674	35-0						
13681	37-0						
13688	38-8						
13689	35-8						
13690	33-12						
13691	31-0						
13692	37-4						
13695	36-0						
15511	34-12						
TOTALS	574 lb. -12 oz.			TOTALS			

NOTE: ALL WEIGHTS ABOVE TO BE NET WEIGHTS IE. LESS TUBE TARE.

MICRO *precision switches*

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN



Here is a compact 2-circuit switch to meet a wide variety of textile applications

This MICRO precision switch is designed to meet every requirement for a compact 2-circuit switch for use as a limit, safety or interlock switch on many textile machines.

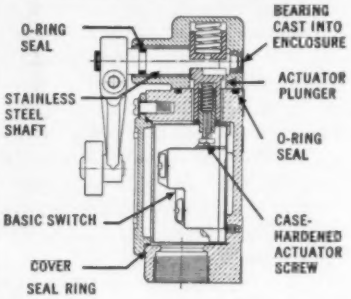
It has small size, extreme versatility, precision, reliability and ruggedness. All moving parts and the switching chamber are completely sealed, protected from wear or becoming fouled. Field adjustability permits its use in practically any type of application or location.

Two-circuit contact arrangement allows flexibility in circuit design. Reliability of the precision, snap-action unit assures accurate repeat operations throughout many millions of hard, fast actuations. Although small and compact in size, this switch is not only a precision instrument. It is designed and built to stand the most severe abuse.

The electrical rating is: 10 amperes 120, 240 or 480 volts a-c; ½ H.P. 115 volts a-c; 1 H.P. 230 volts a-c; .2 ampere 115 volts d-c; .1 ampere 230 volts d-c; .04 ampere 550 volts d-c. Pilot duty rating is: 600 volts a-c, max.

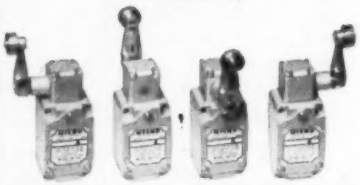
Like many other precision switches in the MICRO SWITCH line, this versatile 2-circuit switch is an ideal component for installation on present textile equipment. MICRO precision switches make machinery safer, more automatic and more productive in many progressive mills.

Seals Provide Maximum Protection



Sealing is provided by use of O-ring seals on the actuator shaft and between the actuator head and the housing. A synthetic rubber ring seal is provided for the cover. These seals provide maximum protection against entrance of dust, oil and other liquids. The switch meets NEMA specifications for an oil-tight pilot device.

Adjustable Head Assembly



The switch is easily mounted in almost any location. The user can remove the head and locate it in any of 4 positions (as illustrated).

Field Adjustable Actuator

The roller arm actuator is field adjustable through 360 degrees, positively locking in any position. Actuators are assembled to operate in either direction. They can also be converted to operate in one direction only, clockwise or counterclockwise

Send for new catalog 83 on industrial enclosed switches.

MICRO precision switches are sold by distributors in key cities everywhere. Look under "Switches, Electric" in the yellow pages of your phone book.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

out whatever cloth is ready, when it is ready. The disadvantage of such random lot handling is that several different bleached or dyed lots may be used in making up one group of garments with the result that the colors may not match.

The batch system also assures that only one manufacturer's yarn of a single lot is in the garments, thereby providing another precaution to obtain matched colors and fabrics in the finished garments.

Orders at Oneita are made on the basis of total pounds of each type of goods required to make a specified number of garments. This assures that all goods for the garments will be same color, texture, and appearance. For example, Batch #120 would include sleeve cloth, body cloth, flat collarettes, and rib collarettes.

Cloth is identified and four checks on cloth production from start of knitting through delivery to cutter are provided by the forms shown in the accompanying illustrations.

LOT NO. 493 DATE 11/25/55
BATCH NO. 120 BLEACHERY WASHTUB BLEACHERY, SUMMERVILLE, S.C.

SHEET NO.	LEFT COL.	RIGHT COL.	TOTAL ON SHEET	SHEET NO.	LEFT COL.	RIGHT COL.	TOTAL ON SHEET
1	574-12		574-12				
2	821-8	166-12	988-4				
3	301-0		301-0				
4	956-0	530-0	1486-0				
5	1014-0	334-12	1348-12				
6	208-0		208-0				

TOTAL LB ALL SHEETS 4307 LBS. 4 OZ.

STYLE	NO. OF ROLLS	POUNDAGE	GREY WIDTH	FIN. WIDTH	SHEET NO.	SPECIFICATIONS
108	15	574-12	15"	16"	1	
"	28	988-4	15"	16"	2	WHITE
"	8	301-0	16"	17"	3	
"	36	1486-0	17"	18½"	4	TUBE-TOP
"	31	1348-12	19"	20½"	5	ONLY
206RC	6	208-8	20"	18"	6	

REMARKS FINISH AND RETURN TO ANDREWS PLANT.

TOTAL ROLLS 125
TOTAL LB 4307 LBS. 4 OZ.

FORM 3. Third check shows components of batch. Note batch number at top of form.

15511
Size 15"
Lot No.
Cln No. 108
Fin Width
Knit Wt. 34 Lbs. 12 Oz.
Fin Wt. Lbs. Oz.
Knits 303 Mach. 86

16" 15511
Cln No. 108
Fin Width
Knit Wt. 34 Lbs. 12 Oz.
Knits 303 Mach. 86
Date Knit 11/16/55

FORM 4. This ticket accompanies roll of cloth to bleachery where additional information is written in by bleachery personnel. Cloth is returned with same identification (batch number).

Cloth Turned. Also, this mill turns cloth wrong side out after inspection upon leaving the knitting machines. Oneita believes this facilitates all or most sewing operations. Handling the cloth while it is inside out also helps to keep cloth face cleaner and reduces seconds.

The bleachery sews all 16" rolls together; all 14" rolls together, etc., for continuous processing of sizes.

Four additional checks to prevent losing goods being transported from knitting mill to bleachery and then to cutting room are as follows:

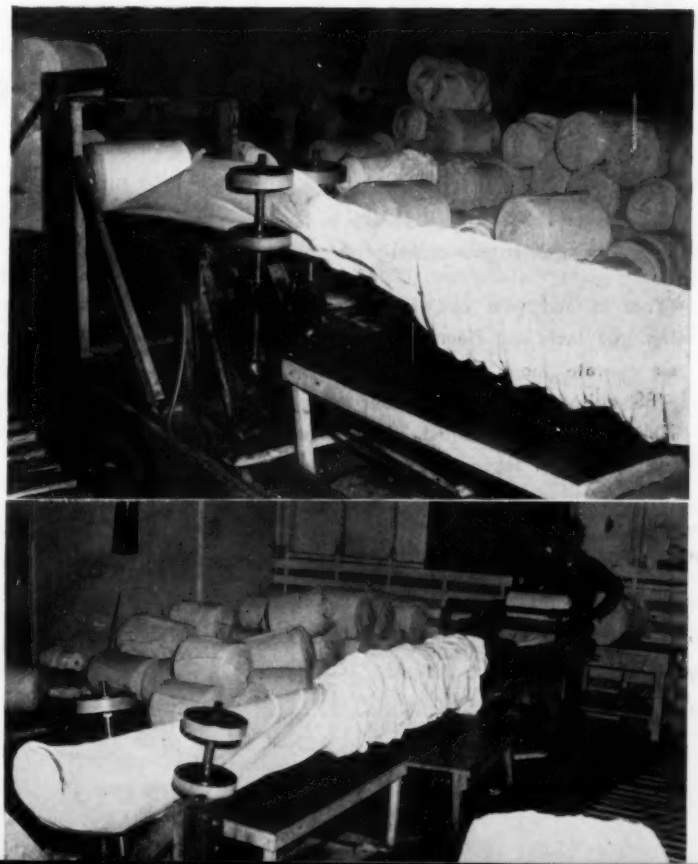
(1) Cloth is checked by roll number and pounds into Oneita truck to be delivered to bleachery (grey cloth).

(2) Cloth is checked by roll number and pounds from Oneita truck into bleachery (grey cloth).

(3) Cloth is checked by roll number and pounds from bleachery into Oneita truck (finished cloth).

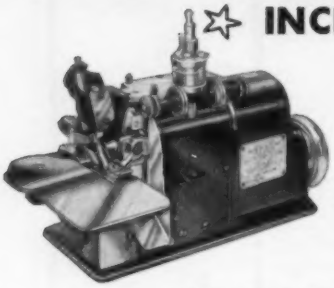
(4) Cloth is checked by roll number and pounds from Oneita truck into Oneita cutting room (finished cloth).

TURNING CLOTH INSIDE OUT. First step is to unroll it onto a large metal tube **(top photo).** Then pull cloth through tube and reroll at opposite end of tube—inside out **(bottom photo).**



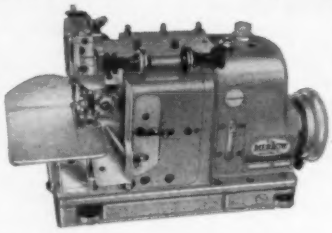
MERROW *OVERSTITCHING MACHINES*

☆ INCREASE PRODUCTION ☆ CUT COSTS



CLASS A MACHINES

Versatile . . . rugged . . . economical. Job-proven performers on a wide range of applications (including shirring).



CLASS M MACHINES

For a variety of overstitching operations where automatic lubrication is desired.

AVAILABLE WITH SEVERAL MODIFICATIONS, BOTH CLASSES OF MERROW OVERSTITCHING MACHINES TURN OUT BETTER PRODUCTS FASTER BECAUSE THEY FEATURE:

- **HIGH PRODUCTION** — Assured by high operating speeds . . . thoroughly tested and *proven* engineering design . . . traditionally rugged Merrow construction.
- **ADAPTABILITY** — Extensive interchangeability of parts permits conversion to a wide variety of operations.
- **QUALITY STITCHING** — Precision thread handling reduces breakage, assures uniformly accurate stitch formation.
- **OPERATOR CONVENIENCE** — Unobstructed visibility of work, ease of operation and accessibility reduce operator fatigue . . . increase output.

We will be glad to demonstrate the work of these machines on your own sample garments or fabric swatches.

TRADE MARK REG
The **MERROW**
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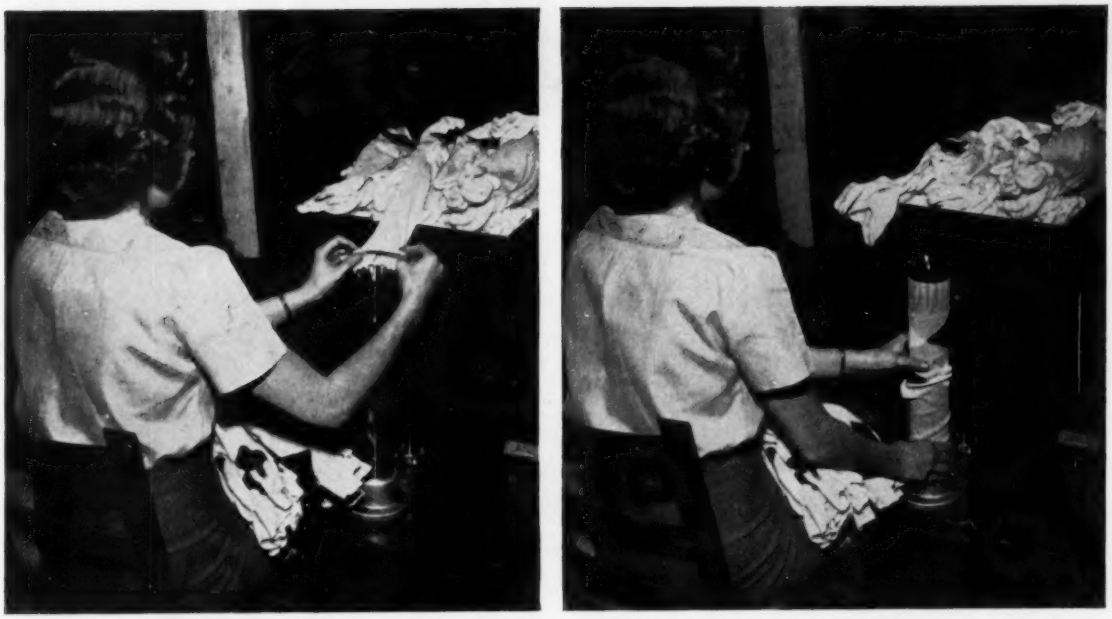


MANDREL RECEIVES SOCK (left) in toe-first position for clipping operation. Entire sock on mandrel (right) is clipped, and upon removal, is turned inside out by the turning hook which holds top of sock. Socks are now ready for looping.

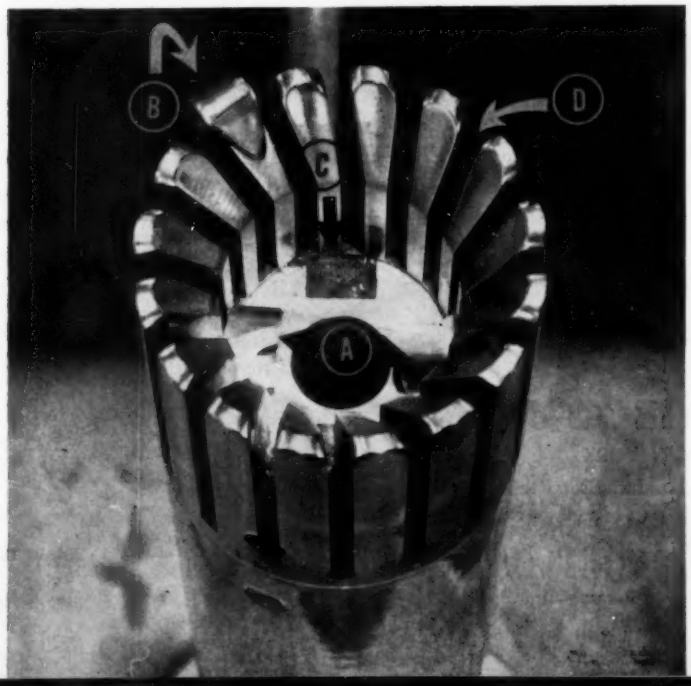
Argyle Hose Trimmer Increases Knitter Potential Four-Tenths

STAFF PREPARED
EXCLUSIVE

AN ELECTRICALLY operated rotary trimming machine for argyle and mock wrap hosiery was installed in October, 1954, at Brown Brothers Hosiery Mills, Inc., Hickory, N. C.

This machine, called the Trim-Master, was supplied by Textile Trimming and Boarding Machine Co., Inc., and has enabled the mill to relieve the knitters of a time-consuming task. Knitters no longer have to trim loose ends by hand at the knitting machines from inside overplaid and solid color pattern socks.

CUTTING HEAD of mandrel in closeup shows cutters (A); turning hook (B); oil wick (C). Loose ends are drawn by vacuum into openings (D) and are trimmed by fast rotating cutters (A).



Description. The machine consists essentially of a mandrel equipped with a turning hook and rotating (at 1100 rpm) cutting blades. The top portion of the mandrel is slotted into a number of "fingers" through which the loose ends are drawn into the cutting field. A vacuum tube collects the trimmings into a tank.

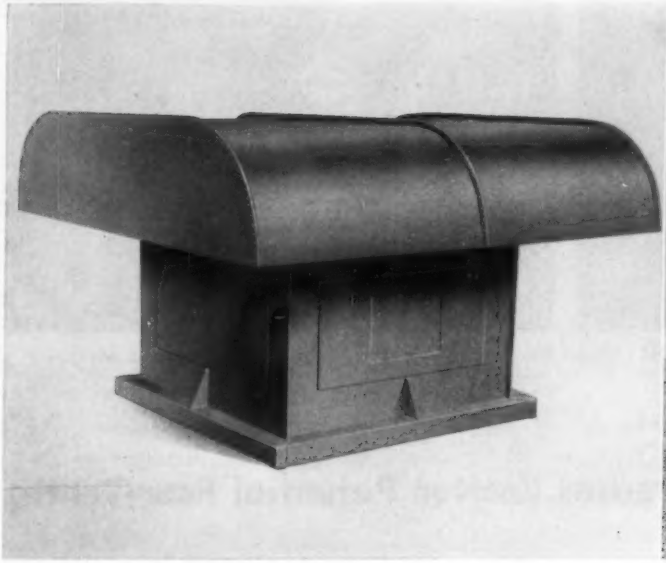
Two small electric motors, operating on 110 volts, run the machine. One motor is for the mandrel, the other for the vacuum unit. The entire machine occupies only about four square feet of floor space.

Training. The present operator observed the machine in operation

"Buffalo" SKY-VENT ROOF VENTILATORS

CAPACITIES: 1,000 cfm through 250,000 cfm

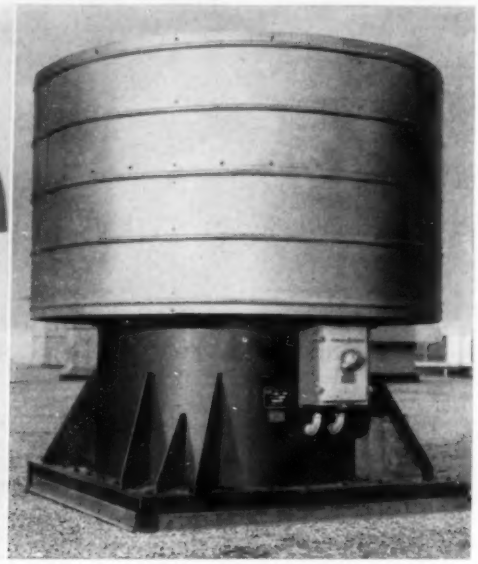
SIZES: 12″ through 120″



Style "H" Sky-Vent

The Style "H" Sky-Vent head is made of heavy gage galvanized steel with integrally rolled stiffening flanges along its entire length and is internally braced with one-piece welded square hollow tubular frame. Hood design minimizes friction loss as air leaves unit.

The extra heavy galvanized steel stack with integral flanged curb plate has offset stiffening panels rolled into the side sheets and on larger sizes is further braced with one-piece welded square hollow tubular frame. Gravity, manual or motor operated shutters are available, mounted in the stack. Disconnect switch and internal wiring can be provided.



Style "V" Sky-Vent

Counterbalanced dampers open when fan starts, close by gravity over V-shaped trough at top of inner cylinder when fan is shut off. Heavy gage stack contains integrally welded gussets supporting motor and propeller fan. Outside gussets provide rigidity, minimize vibration. For easy installation, a flanged roof curbing plate is welded to the stack.

"Buffalo" high volume power roof ventilators are designed to ventilate large plant areas not adjacent to outside walls or where expensive and bulky duct work is impractical. This type of ventilation lends itself well to rearrangement of plant layout without consideration for the ventilating system.

The "Buffalo" Propeller or Axial Type Fan in the stack has all the strength, efficiency and smooth operation that characterizes the "Q" Factor* in all "Buffalo" Fans. Recently introduced, these new units are being adopted by many of the country's largest plants for removing hot air, fumes and fogs from large areas. Why not investigate? Write today on your company letterhead for Bulletin FM-1234 and other descriptive material.

The "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.*

BUFFALO FORGE COMPANY

BUFFALO, NEW YORK

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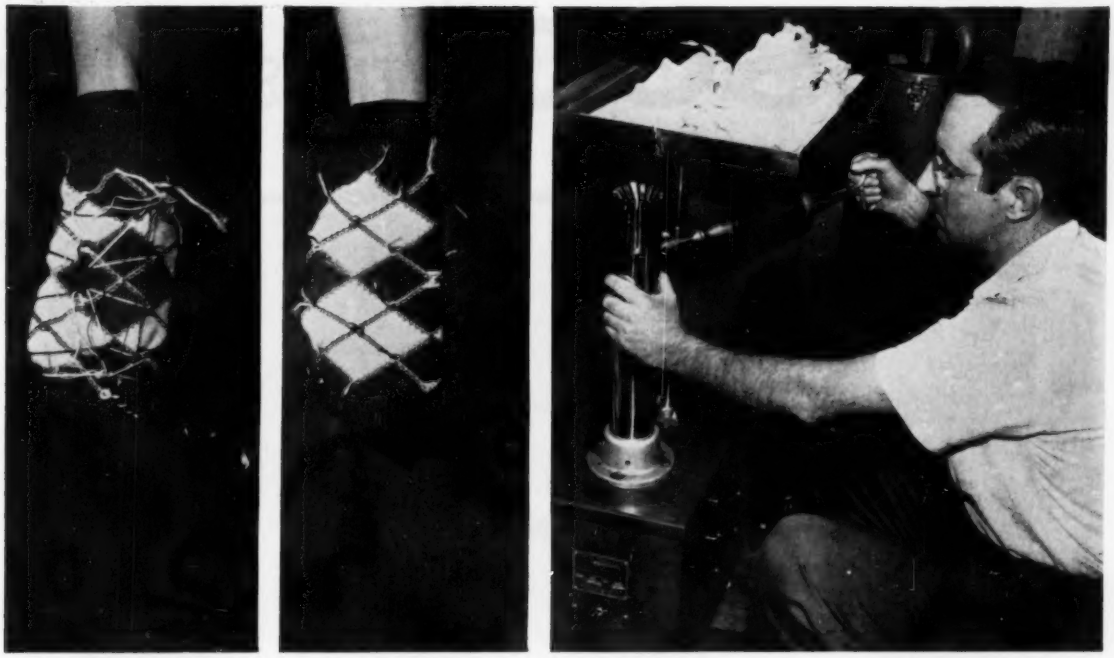
"Buffalo"

INDUSTRIAL EXHAUSTERS | BELTED VENT SETS | PROPELLER FANS | "E" BLOWERS - EXHAUSTERS



SOCKS UNTRIMMED (left), and trimmed (center). Overseer Jeter McMahan (right) is filling one of three grease fittings to be serviced every three days.

a few moments before she went to work using it, learning as she gained experience. In two weeks, each of the operators could trim 200 dozens in eight hours. No special training period or methods were necessary in view of the simplicity of the machine and operation.

Operation. The vacuum is adjustable to compensate for different yarns and socks being processed. The sock can be slipped over the mandrel either toe first or top first, but experience proves that a little better production is usually achieved by slipping the toe over the mandrel first. This gives the operator a chance to slip the heel over the top of the mandrel; then, by holding the top end vertically and using the opposite hand, to pull the sock down over the mandrel until the top of the sock drops below the turning hook The sock is then trimmed; and, as it is removed, it is turned inside out by the hook, and is ready for the looping operation.

Maintenance. The thread cutters are sharpened once each week, in this instance, to keep them in good condition. The overseer lubricates the trimmer once every three days. There are three grease fittings and two oil wicks, requiring a negligible amount of lubricating time. No other maintenance has been required on this trouble-free unit.

Savings. The improvement in production permitted the investment in the new machine to be amortized in about seven weeks. The savings in time permitted the number of knitting machines operated by each knitter to be increased four-tenths.

Only one person is required to operate the trimming machine on each shift, and the trimmer operates on a schedule of three shifts a day. The operator can easily trim 200 dozens or more in eight hours, and on occasion has done as many as 240 dozens in eight hours.

This trimmer takes care of the production of socks from 74 knitting machines (26 overplaids and 48 solid color pattern machines). The Trim-Master is used to trim the loose ends from inside the socks, and to turn the socks inside out, to ready them for looping.

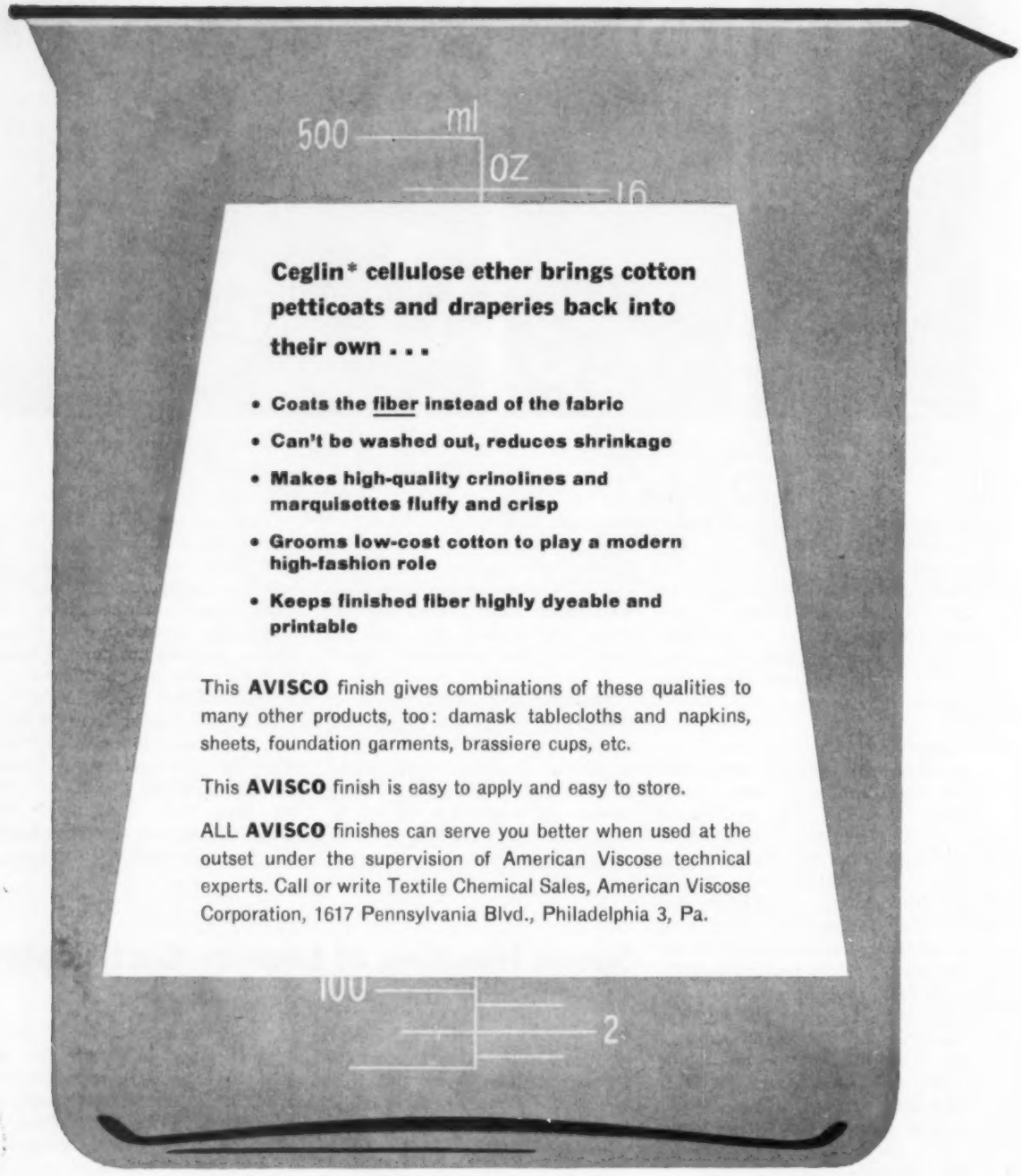
Speed Handling of Learner Certificates

KNITTING mill personnel making applications for learner certificates to the Wage and Hour and Public Contracts Divisions of the U. S. Department of Labor can save several days or even more in processing time by complying with the following suggestions given by Harry Weiss, assistant administrator of the Divisions, during the recent annual meeting of the Underwear Institute:

"Remember to follow the instructions about where to send the application. The original should be mailed to the national office in Washington. Send the copy to the regional office. And on the national office application, indicate the date the duplicate was sent to the regional office.

(Continued on page 159)

AVISCO* finish "fines



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- **Instantaneous inventory control**
- **Maximum number of parts in minimum space**
- **Bold, clear box markings to show part number, name, and number of units in package**
- **Strong boxes protect parts against damage.**

The Saco-Lowell prepackaging program offers mills an opportunity to improve ordering procedures and parts handling with a resulting substantial saving in costs. Multiple unit packaging has been developed only after careful scrutiny of orders over a period of years to see the average number of parts of a particular type that are ordinarily ordered. For example, card mote knives are almost always ordered in pairs; rotary brushes and comb blades by the dozen; bolsters in lots of 100.

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HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

How to Calculate Weavers' Piece Work Rates

This discussion is continued from the May issue (p 155) of TEXTILE INDUSTRIES. *Additional information is sought by* CONTRIBUTOR NO. *8846 who posed the original question. The information requested is submitted by* CONTRIBUTOR NO. 8850, *who also was involved in the May discussion.*

Q.—In the example given on loom assignment, do the figures represent one loom or a group of looms?

A.—The figures and calculations are for one loom. However, by using average figures for times, and frequencies of occurrences, obtained from the study of many looms of the same type running on the same style, the set of figures for one average loom is representative of a large group of looms.

Q.—What is the normal time for studying loom assignments — one hour, two hours, etc.?

A.—No definite rule can be set for the length of time to study loom assignments. The studies are usually divided into two different types:

1. Time studies made primarily for the purpose of establishing the normal time for a weaver to perform each element of work.

2. Frequency studies made primarily for the purpose of determining the number of times each element occurs per 1000 picks.

It has been found that six to eight time studies of four hours' duration, each made on a different experienced weaver, will provide sufficiently accurate element times for establishing a proper loom assignment and appropriate incentive wage payment data. If for any reason the time study data appear to be out of line, additional studies should be made.

The frequency of loom stops is influenced by many different factors, most of which are beyond the control of the weaver. The weaver's work, on the other hand, depends almost wholly on the number of loom stops occurring during a work period.

In addition, both the number and type of loom stops vary from time to time. It is desirable for Management to know at all times the rate of occurrence by type of loom stops, so that (a) the causes of increased stoppage may be determined and corrections made, and (b) weavers' assignments and wage payment data may be adjusted to fairly employ and pay the weaver.

The initial loom assignment and wage payment data, of course, must be based on representative frequency data. In stable situations, where fluctuations in loom stops per hour are not excessive, stoppage rates determined from a count of stops by type during 800

KINK CONTEST

$100 will be awarded the winner

Send your entry now! This contest ends August 15, 1956

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, August 15, 1956.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Ga.

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to 1000 loom hours will give sufficiently representative frequencies.

A frequency study should not be of less than four hours' duration nor extend over eight hours. It is not desirable to make all the studies over a short span of days.

Frequency studies should be made on looms on a routine basis, and results charted. Any significant changes in loom stops, either more or fewer, which stabilize at a new level should be used to adjust the loom assignment and wage payment data.

Q.—Where do the figures for occurrences per 1000 picks come from?

A.—As explained above, frequency studies are made to determine loom stoppage rate. On this type study, the loom stops by type are counted. The number of picks run during the study is determined.

In summarizing the study, a stoppage rate is computed for each type stop in terms of stops per 1000 picks. Several studies are considered in determining the values to be used in computing the loom assignments.

Q.—Could an accurate study be made by using the operator time vs machine time? This question is asked because, in the operation of weaving, there is no definite cycle in which to time elements. The stops are random stops; therefore, it is very difficult to break the operation down into elements.

A.—Accurate results may be obtained through the use of the ratio-delay or work-sampling method for determining the work the weaver is doing on a loom or group of looms each hour. This method, however, does not give the details necessary for consideration in decreasing loom stops and improving the weaving characteristics of the cloth.

It has been found that establishing element times by time study and determination of loom stop frequencies, together with distribution of type stops on a routine basis, permits accurate incentive wage payment and data upon which constant improvement can be based.

In any operation such as weaving, where there is no definite machine cycle, the work-element frequency of occurrence is related to a fixed period of time, such as one hour, four hours, or one shift. To get sufficiently accurate results, the aggregate machine performance must be corrected for machine efficiency.

In determining the frequency of loom stops, the pick clocks are read at the beginning of a study and at the end, from which the total picks run is computed. The stops are then related to the picks run.

Q.—The standard minutes per 1000 picks in your example is 0.15938. Does this mean the loom would be down 15 minutes per hour?

A.—The amount of work the weaver will do on each loom, on the average, for every 1000 picks run, is —0.15938 standard minutes per 1000 picks. In one hour, a loom running at an efficiency of 90% will produce 8370 picks. The average weaver would be required to work on the loom an average of

$$\frac{8370}{1000} \times 0.15938 = 1.33 \text{ minutes.}$$

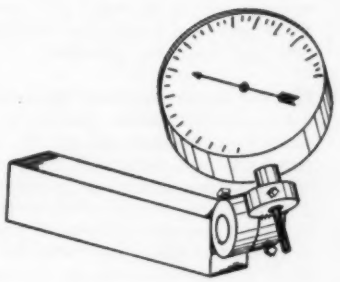
The loom would be down an average of 6 minutes per hour.

HOW OTHER MEN MANAGE

This Easily Made Dial Trues Stock in Lathe

EDITOR TEXTILE INDUSTRIES:

For truing stock in the lathe, we made this dial from a discarded air pressure gauge. A steam gauge will work equally well, if it has a diameter of about 2½".



The other parts needed are: a five-inch length of ½" cold-rolled steel rod, a four-inch piece of brass welding rod, one piece of flat steel ⅝" x 1½" x 5", and three cold-rolled steel collars ½" thick, with 1" outside diameter and ½" bore. Each collar is drilled and tapped to receive a ¼" set screw for holding the collar on a shaft.

If these steps are followed closely, construction is easy: Remove the front and back from the gauge by prying off the rim that holds the glass. Then remove the two screws on the back of gauge which will let the other part come loose.

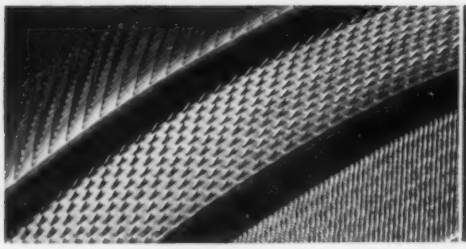
Bore a 3/16" hole all the way through air or steam hole that goes into the gauge, being careful not to let your drill hit the small gears that operate the hand on the face of the gauge.

In order to make the hand move on the face of the gauge, push the 3/16" welding rod through the hole just drilled and let it push the oval tank that originally moved the hand by the pressure of air or steam. Notice that the rod will hit the gears of the gauge.

Therefore make an offset in the rod so as to miss the gears and hit the oval tank. This will also serve the purpose of fastening the rod into the gauge. Heat about 1¼" of the welding rod just enough so it can be flattened to about 3/32", and bend a ⅛" offset next to the round part of the rod. File or grind the flattened surface back to 3/16" width.

In order to get the rod into the drilled hole, remove the two rivets that hold the gears, and lean gears back enough so as to slide the rod in. Put gears back in place, then fasten rivets into same holes. See that rod works easily so as to move the oval tank when the rod is pushed from the outside of the gauge.

In order to fasten dial indicator



Ashworth Tips ON CARDING

No. 31 in a Series

CARD DOFFERS

The doffer on the cotton card is one of the final factors which determine the relative uniformity of the card sliver. You can make the most even inch-for-inch picker lap in the world, but if the doffer is out of round it will undo all the care and attention that has gone into the make-up of the picker lap. By putting into effect the following recommendations, you can eliminate any possibility of non-uniformity in card sliver chargeable to the doffer on the card:

1. Surface grinding the bare doffer prior to application of new clothing is fast becoming standard practice. Should you not be doing this in your own mill, we urgently recommend that you start immediately. Your source of supply on card clothing will furnish you bare cylinder grinders.

2. Not too much attention has been paid to the condition of doffer shafts, shrouds or bearings. In some mills it is common practice to make allowances for those that are worn and compensate for such wear when setting doffer to cylinder. When operating out of round doffers with worn shafts, shrouds or bearings, you cannot hope to produce an even sliver. A systematic check on these two points, with immediate corrective attention, is indicated.

3. While the doffer has never been considered as a cleaning unit, it does remove a considerable amount of pepper trash—depending on the length and condition of the doffer wire and the setting of doffer comb to doffer. This is easily substantiated by checking the accumulation of such waste on the doffer pan, located immediately under the doffer comb and doffer.

4. You can prove to your own satisfaction that doffer fillets with long wire, free of bruises, will do more cleaning and produce a more even sliver, by making a very simple check in your own mill. Compare the accumulation on the pans beneath the doffers equipped with good card clothing as against those worn from extensive grinding, which in addition to being short, are jammed or shedding or both.

5. The doffer comb is a very important adjunct to the doffer itself. Setting of comb to doffer is very important, and it is suggested that a periodic check be made on the setting quality of all doffer comb blades. Too much variation in setting of the blade at the doffer comb fingers, as opposed to space between fingers, prevents the proper removal of stock from the doffer and affects the amount of pepper trash removed from the stock being carded. Such comb blades should have immediate attention.

6. Check the teeth in the comb blades. Bent and rough teeth hang cotton, causing uneven sliver.

7. The comb driving mechanism, including the comb box, should be checked periodically, particularly for wear which affects setting of comb to doffer. This wear can be in the foot end comb stand or in the box itself.

8. The bonnet of the doffer not only protects the card room personnel from possible injury, but is also insurance against damaged doffer clothing. When it is correctly fitted and set, it controls the draft at this point. An inspection of your own doffer bonnets may reveal that some of these have been improperly installed and poorly fitted, which conditions should be corrected.

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to tool post holder on lathe, weld one collar to another at right angles so as to leave the set screws outside. Thread one of the collars so the dial indicator will screw into it.

Weld the other collar on the end of the 5/8" flat iron which will fasten in the tool post holder on the lathe. Place the 1/2" rod in both of these collars. The indicator is now ready to be positioned over the stock to be tested. The dial may be used as it is, and readings taken about any point selected as "zero."

CONTRIBUTOR No. 8870

HOW OTHER MEN MANAGE

ICS Director Replies to Critic

EDITOR TEXTILE INDUSTRIES:

On pages 203 and 205 of the April issue of TEXTILE INDUSTRIES appears an article entitled "Is It 'Crimp' or 'Take-Up'?" The correspondence school involved is not named specifically by the writer of the article, but we assume that he refers to the School of Textiles, International Correspondence Schools. As Director of the School, I feel that it is my duty and obligation to come to the defense of what we teach.

This article represents the first "complaint" we've ever seen on our definitions of crimp and take-up. Actually, of course, it is not a complaint, but a frank and open discussion of what the author believes is right. I must disagree in part with what was stated.

First, ASTM does not define take-up. The ASTM Manual is the bible of the industry—most mill men swear by it. Our texts are written in the language that mill men will understand. Now, if ASTM does not define take-up, why is it used at all?

Furthermore, CONTRIBUTOR No. 8845 apparently has not studied his Cloth Calculations text very carefully. Toward the end of this text it is clearly stated that the student must always consider what he is doing—whether he is calculating from warp to fabric, or vice versa—which is exactly the point that your contributor is making.

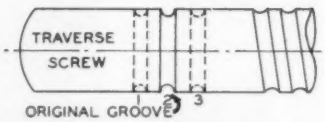
If and when ASTM and the industry as a whole decide to accept this differentiation between crimp and take-up, then we at ICS will make the necessary changes in our texts.

RAYMOND C. GAGNON
Director, School of Textiles
International Correspondence Schools

Repair That Vacuum Stripper Traverse Screw

EDITOR TEXTILE INDUSTRIES:

The life of new traverse screws in vacuum strippers can be tripled by cutting a groove 1/8" away from, and on each side of, the standard groove. We repair our old screws by cutting a groove as is indictated in accompanying drawing.



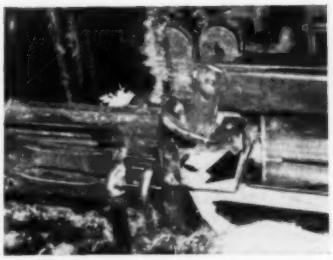
CONTRIBUTOR No. 8864

How to Prevent Jerked-In Filling on W-3 Looms

EDITOR TEXTILE INDUSTRIES:

We were running an 8s spun yarn in one box on our W-3 looms and a 5s nubby yarn in the bottom box. The 8s kept pulling in the nubby yarn for a few inches at the edge of the fabric; the nubs were quite large, and could not easily be picked out.

We solved the problem by attaching a piece of spring wire to the shuttle box, as shown in the accompanying illustration. The wire is bent in the shape of an "L," and a 1/4-inch groove is cut in the lay, into which the wire fits.



When the bottom box is down, the wire holds the nubby yarn and prevents it from being jerked into the cloth.

CONTRIBUTOR No. 8841

How Are Lenos Woven on Narrow Fabric Looms?

EDITOR TEXTILE INDUSTRIES:

Could you kindly give us drafts and as much information as possible for the weaving of a narrow fabric with leno (doup) heddles?

We would very much appreciate it if you would give us some information specifically adaptable for narrow fabric looms with multiple shuttles, and a simplified method of mounting this set-up on our looms.

CONTRIBUTOR No. 8871

Readers are invited to submit replies giving the information requested by this CONTRIBUTOR.—*Editors.*

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Caprolan evaluation programs are now under way in many leading mills. For more information or technical assistance, call or write:

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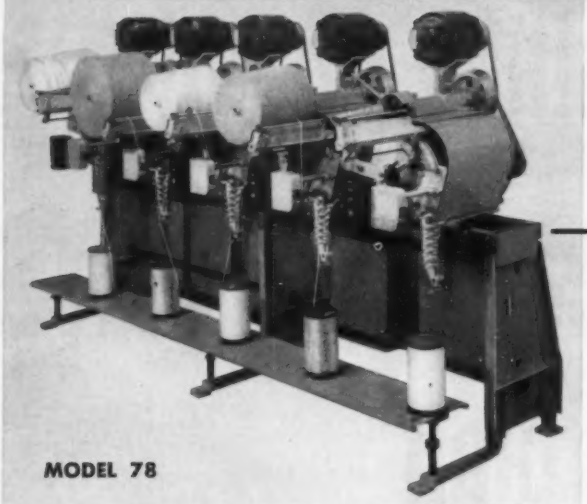
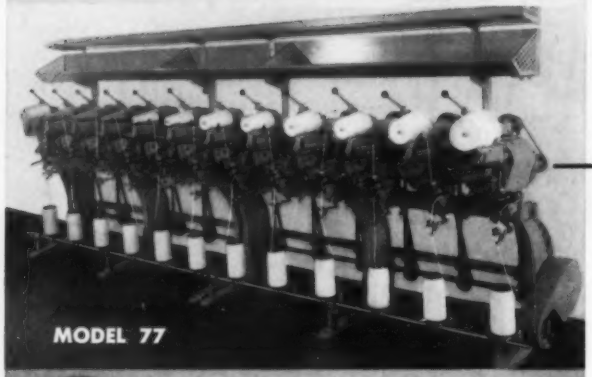


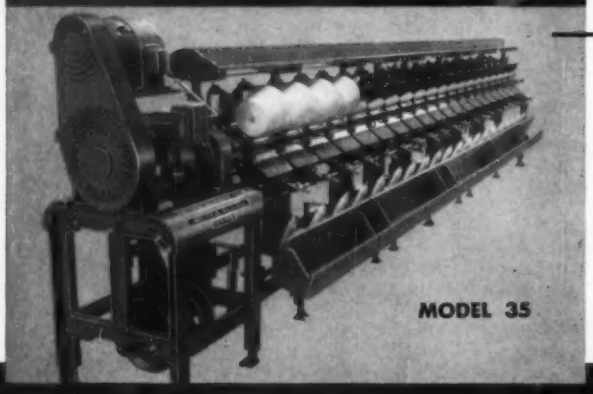
MODEL 78

MODEL 78 – This machine (built in 5 spindle units) produces 8" to 10" traverse, precise wind cones up to 16" in diameter and weighing up to 35 lbs. each. Ball bearing spindles are individually motor driven at speeds up to 800 R.P.M. It has controlled slow start and spindle brake, heavy duty belt gainer with hand wheel adjustment (or positive gear gainer, if desired), positive size stop, electric drop wire and expansion type cone holders, with handle control, for easy donning and doffing. Will wind overend from bobbins or from swifts, reels or unrolling devices.



MODEL 77

MODEL 77 – Built in 6 spindle sections, produces 4" to 8" traverse, precise wind cones up to 10" in diameter and weighing up to 14 lbs. each. Ball bearing spindles, individually belt driven by one motor, run at speeds up to 1100 R.P.M. It has a positive, long wearing package brake and positive solid tapered pulley belt gainer. It will wind overend from bobbins, or from swifts, reels or unrolling devices. 90° build-up from face of cone prevents broken back or under-wound packages.



MODEL 35

MODEL 35 – Built in units of 10 spindles to 80 spindles. Produces open wind 8" traverse cones up to 11" in diameter and weighing up to 9 lbs. each. Winding speed from bobbins is from 180 to 250 Y.P.M. and from skeins 100 to 150 Y.P.M. Standard taper cone holders are 7° 22½′ and 3° 51′. Package brakes and disc waxing attachments are extra. Can be equipped to wind from swifts, etc. as well as from bobbins. Write for Model 78 bulletin A-98A, Model 77 bulletin A-99, or Model 35 bulletin B-46A.

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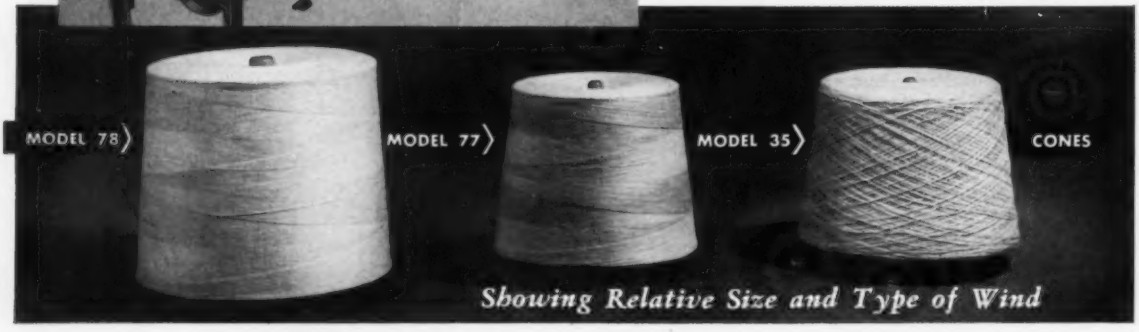
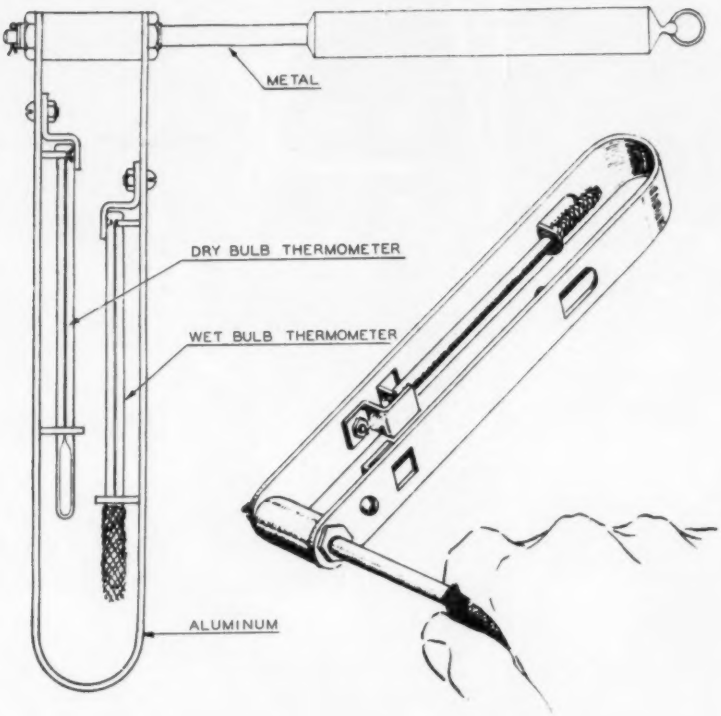


Showing Relative Size and Type of Wind

Here Is a Guarded Sling Psychrometer



EDITOR TEXTILE INDUSTRIES:

Our narrow alleys caused us to break too many psychrometers by banging them against looms, posts, etc. An answer to that problem is in the guarded psychrometer illustrated by the accompanying drawing.

The frame is of sheet aluminum with the thermometer brackets stamped or punched in. We turned and knurled the shaft. The frame does not interfere with our readings.

CONTRIBUTOR NO. 8869
(South America)

What Is Your Opinion on Worsted Knitting Yarn Variation?

EDITOR TEXTILE INDUSTRIES:

We have a question concerning yarn count variation on a Bradford oil spun knitting yarn. We would be interested in knowing what other spinners consider reasonable variation in yarn count.

As an example, if they are spinning 10s worsteds, they undoubtedly have standards which they consider the proper tolerance, and it is this information that we would like to have in order to know how we are doing compared to other people.

CONTRIBUTOR NO. 8855

Referred to sources of information.—Eds.

EDITOR TEXTILE INDUSTRIES:

In regard to count variation on worsted spinning, we would say that 2½% up and down is considered normal count variation and 3% up and down might be passable. When it gets to 3½% up and down it is getting serious.

To further explain: with 2/20 count, 2½% means 19.5s to 20.5s.

We weigh ten bobbins from each lot daily on each shift to keep our count variation under control.

CONTRIBUTOR NO. 8856

EDITOR TEXTILE INDUSTRIES:

The only guide to count variation we have at present in the industry is the ASTM Standards which are as follows:

Single Yarns	20 and below	±5%
	20-30	±3.5%
	30-40	±3.0%
	Over 40	±2.5%
All Ply Yarns		±2.5%

These tolerances have been open to question recently, and a D-13 Subcommittee has been working to set up new tolerances. The new tolerances will probably be five or six—plus or minus—for all yarns.

CONTRIBUTOR NO. 8857

EDITOR TEXTILE INDUSTRIES:

Your question relative to yarn count tolerances is something individuals, groups, and committees have been trying to answer for a long, long time.

Your reader did not say whether he was interested in averages, individual sizings, or statistical control of yarn counts. You are, of course, as well as is your inquirer, familiar with the proposed tolerances in the report of Committee D-13 of ASTM. We feel that the tolerances proposed here are not realistic, as they depend to a large extent on the customer's interpretation, which would not necessarily conform strictly to the wording of the standards.

We attempt to hold averages of a lot of yarn pretty much to customer specifications. We might vary a few hundredths of a count, plus or minus, but in most instances the difference between actual count and required count is negligible. However, we all know that this is not a true picture of variations.

We do not have any tolerances on individual sizings that would mean a great deal to anyone else

Here's why Accotex Aprons spin
STRONG, UNIFORM YARN

A unique series of chemical baths helps give Accotex® Aprons surface friction characteristics that are just right for today's high draft spinning.

In this patented treatment, aprons move from one chemical bath to another automatically. The temperature and the composition of the baths—as well as the time cycle—are held to rigid specifications. All this is done with split-second timing, with no chance for human error.

As a result, the inner and outer apron surfaces are conditioned so that their frictional properties are exactly right for good fiber handling.

This special treatment is one of many exacting steps taken by Armstrong textile research engineers to make sure every Accotex Apron gives you good spinning performance. Other advanced testing methods, plus the very latest production techniques, also assure you that these aprons will deliver strong, uniform yarn year after year.

There's an Armstrong Accotex Apron specially designed for your needs, no matter what fiber or blend you're spinning . . . no matter what equipment you're using.

For example, the black-and-white NO-7075 Accotex Apron is engineered to meet the exacting requirements of double-apron spinning, especially those frames with close-pin cradles.

The NO-750 Accotex Apron is made of a special, super-flexible synthetic rubber for smooth drafting action and good yarn control on single-apron equipment.

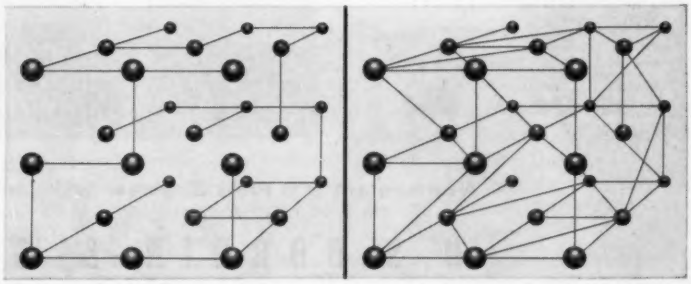
If you're not already using Accotex Aprons, ask your Armstrong representative to arrange for a test frame next time he calls. You'll see in a short time how these aprons improve yarn quality.

For more information about Accotex Aprons and our other textile supplies, write for a copy of "Armstrong Textile Roll Coverings and Mill Supplies." Address Armstrong Cork Company, Industrial Division, 6407 Ivy Street, Lancaster, Pennsylvania.

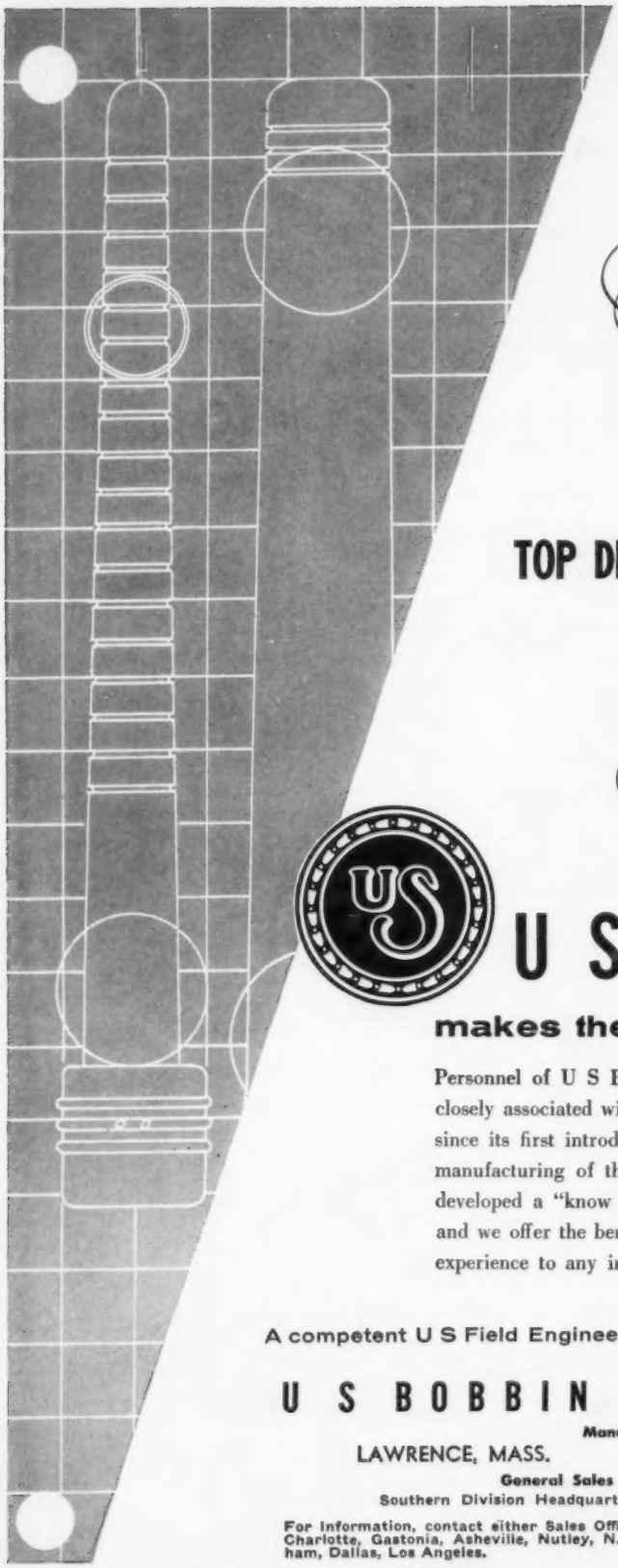
Armstrong ACCOTEX APRONS

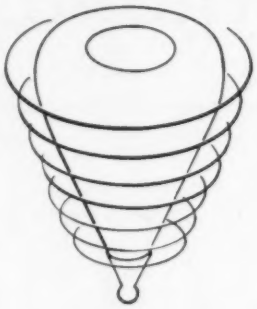
. . . used wherever performance counts

Taking a chemical bath. Before they're cut, Accotex Aprons go through a series of chemical baths which gives them the proper surface frictional characteristics.

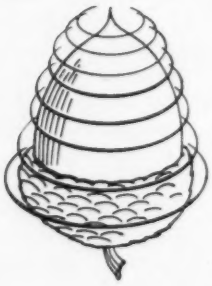


The molecules in resilient synthetic rubber are not completely cross-linked (left). Although the surface is smooth, the friction is too high for textile aprons. The special bath developed by Armstrong produces a denser surface (right) with lower friction.





TOP DRIVE or ACORN DRIVE?



U S BOBBIN

makes the BEST of both!

Personnel of U S Bobbin & Shuttle Co. have been very closely associated with the Top Drive principle in the bobbin art since its first introduction to American mills. In the manufacturing of these quills and warp bobbins we have developed a "know how" of which we are justly proud . . . and we offer the benefits of this valuable accumulated experience to any interested mill.

A competent U S Field Engineer will contact you promptly, on request.

U S BOBBIN & SHUTTLE CO.

Manufacturing Plants

LAWRENCE, MASS. • GREENVILLE, S. C.

General Sales Office LAWRENCE, MASS.

Southern Division Headquarters: 428 Birnie St., GREENVILLE, S. C.

For information, contact either Sales Office; or our Technical Field Representatives located in Charlotte, Gastonia, Asheville, Nutley, N. J., North Attleboro, Mass. Supply Houses: Birmingham, Dallas, Los Angeles.

because of the differences in test conditions, personnel, etc.

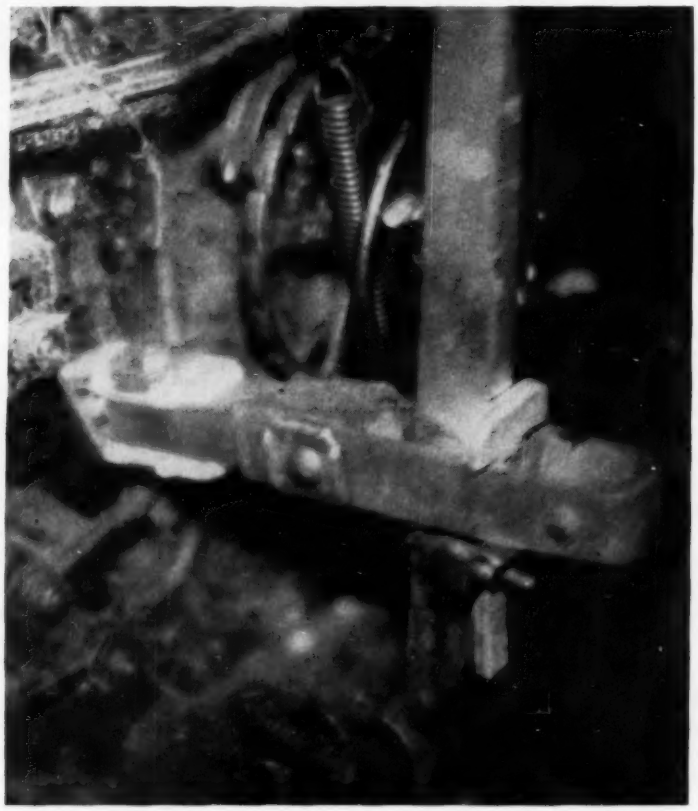
For what it is worth, we use a running three-day average for control purposes, with frequent draw-offs of individual sizings for statistical analyses. We also feel that plus or minus 5 per cent in individual sizings conforms to a good commercial yarn.

CONTRIBUTOR NO. 8861

Maybe This Will Solve Your Power Strap Problem

EDITOR TEXTILE INDUSTRIES:

When our XD Draper looms were new, we used the standard composition - and - canvas power straps. They had a very short life —the plug in the center would work loose, causing the strap to wear and the shuttle would therefore not be thrown straight.



We had some power straps made of rawhide, with a solid leather plug, and gradually installed them on a set of 36 looms. They have worked out admirably.

The accompanying illustration shows a strap that has been in continuous operation on a three-shift basis for the past two years. There is little visible sign of wear.

We have found that the leather insert gradually wears off on the top edge. When this happens, we turn the strap over. When both edges are worn, we clean the strap smooth with a rasp. In three years none have worn far enough to be discarded.

When we began installing these straps, it was suggested that they would be too harsh and would cause excessive wear on pick balls and points, but we have not found this to be the case.

CONTRIBUTOR NO. 8732

Answer These Questions on Card Grinding

EDITOR TEXTILE INDUSTRIES:

We need to know how other mill men set up grinders' jobs in the card room. Perhaps you or some of your readers can answer the following questions devoted to card grinding in general, as well as to job loads:

1. How many men are necessary in a grinding or setting crew to merit a full-time foreman or overseer?
2. How much time (manhours) should be necessary for cleaning and taking down a card for grinding?
3. What is the usual grinding time?
4. How long should it take to get a card set up after grinding?
5. Do grinders work alone, or in pairs?
6. What determines the length of time between grindings?
7. Are lickers-in, screens, doffers, combs, etc., all set at each grinding?
8. How much time is needed to clothe a doffer and cylinder?

CONTRIBUTOR NO. 8862

Referred to sources of information.—Eds.

EDITOR TEXTILE INDUSTRIES:

The following answers relating to card grinders' assignments are based on SLM 1" and will require adjustments from plant to plant:

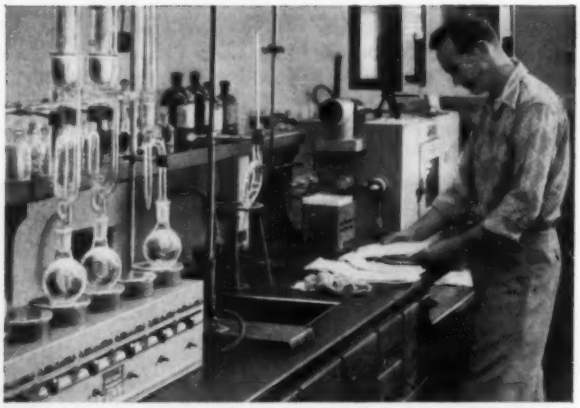
1. Sixteen grinders, 40 cards per grinder, should be enough for a full-time foreman.
2. A card should require no more than 30 minutes for stripping and cleaning prior to grinding.
3. A card must be unusually dull to require more than six or eight hours of grinding.
4. Setting up the card after

How to turn your sizing problems into sizable profits

Are you up against undue breakage of yarn on slasher or looms? Or having tough going in sizing and de-sizing spun rayon, blends or synthetics? Are your re-starching, printing and back-filling operations as economical and effective as they should be?

If you are faced with these or other sizing problems our Technical Staff can give you a powerful assist toward a profitable solution. For example:

In our modern textile laboratory at Greenville, S. C., Corn Products technicians are constantly engaged in seeking solutions to this type of problem. Important projects now under way on behalf of textile mills include check tests on size content of yarns, performance tests of various formulas, perfection of size formulas to meet the specific needs of certain mills.



Check-testing yarns at Corn Products field laboratory, Greenville, S. C. These and many other projects are undertaken on behalf of textile mills.

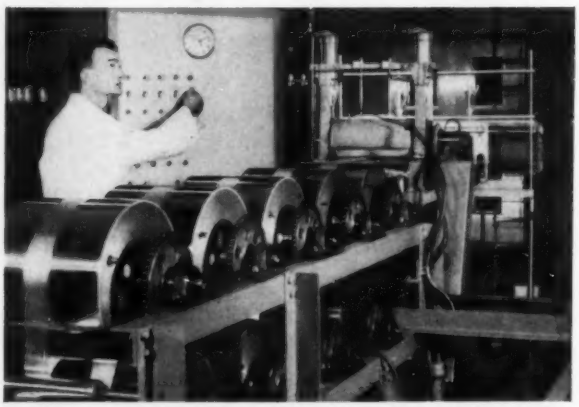
New horizons for textile research

In addition, the Corn Products Multiple Fellowship program sponsors a unique Pilot Plant Slasher Assembly installed at the Mellon Institute, Pittsburgh. Designed and constructed to facilitate study of sizing of all types of natural and synthetic yarns, this flexible assembly permits types of research never before possible—leading to new and better products for the entire textile industry.

Through constant research, continuing quality control and the development of new products and techniques, Corn Products is helping the industry produce higher quality fabrics, in greater volume, at lower unit cost.

Ask the man from Corn Products:

With complete laboratory and technical facilities at his disposal, he can point the way to a solution of your problem. Write or phone for information, no obligation.



Partial view of pilot plant slasher assembly at Mellon Institute. Components include creel with raw yarn, pretentioning mechanism and electrical stop motions; control panel; condensing and leasing apparatus; main slasher unit and size box quetsch assembly.

1906 • **50th ANNIVERSARY** • 1956
CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.

Corn Products make these famous starches for the textile industry—
Eagle® • Foxhead® • Globe® • Hercules • Ten-O-Film® • Globe® Dextrines & Gums

grinding should be done in one hour.

5. Grinders are assigned to work alone, but they usually team up to handle the rolls.

6. From experience we learned to grind each 14 operating days while running SLM 1" stock. If our clothing is unusually dull, which happens rarely, we grind the wire until it is sharp enough to scratch a thumb-nail.

7. The feed plate and mote knives are checked on alternate grindings. All other points are set on each grinding.

8. Two men should clothe both the cylinder and doffer in six hours.

CONTRIBUTOR No. 8863

Reader Calls for Discussion of Large-Package Spinning

EDITOR TEXTILE INDUSTRIES:

We have recently completed an extensive modernization of our mill, during which we replaced all our old spinning with Saco-Lowell SG-1 spinning.

This changeover has brought up the following question, which I think it would be of considerable interest to have your readers discuss:

"If you have either of the large-package spinning frames, Gwaltney or Whitin, with rings ranging from 2¾" to 3", running warp yarn, with as many as four different yarn counts, do you feel that the spinning frame capable of producing the largest bobbin will be the most economical? Should you attempt to get the maximum yardage on the bobbin at all times?"

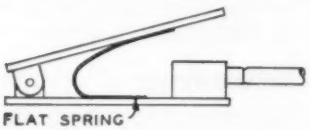
CONTRIBUTOR No. 8876

Readers are invited to use the pages of TI for discussion.

Improve the Speed and Accuracy of Micronaire Work

EDITOR TEXTILE INDUSTRIES:

To speed up the work with our Micronaire we placed a flat spring under the pedal to force a quicker



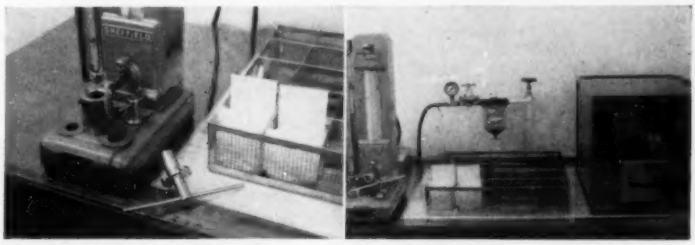
return. In order to allow speedy insertion of the plungers, we outlined the holes with felt washers. By doing this we are able to protect the finish of both the plungers and of the machine without losing time in placing them so carefully.

As a further aid in Micronaire procedure we built a wire-mesh basket to hold our samples. This basket also allows free circulation of the conditioned air in and about the stock being tested. The basket has 25 sections measuring 3½" x 3½" x 3½" each.

We were bothered with drafts from our air conditioning upsetting our scale readings on the Shadograph. To overcome this we built a plywood case 15" wide, 15" high, and 20" deep to house the instrument. Not only did we correct for the draft, but we are able to better see the shadow on our scale.

CONTRIBUTOR No. 8867
(Japan)

FELT WASHERS (left) are placed around the holes for the plungers. The wire-mesh basket allows free circulation of conditioned air through the samples, and (far right) the housing for the Shadograph prevents air drafts from giving inaccurate readings and deepens the shadow.



Speed Handling of Learner Certificates

(Continued from page 141)

"Another point—take the case of the firm that manufactures two lines coming under different learner regulations. If the two operations are segregated, management will help us by submitting two learner applications. Say a plant that makes men's woven underwear and dress shirts and requires learner certificates for both products. Apply for *two* certificates—for learners in knitted wear and for learners in apparel—rather than for one only.

"This will save time for both the firm and the Divisions. Otherwise, we would have to write to find out the percentage of production for each item and whether learners were used interchangeably. This information, of course, would be needed to determine whether we should issue two certificates instead of one."

Some Plain Facts About Drawing Equipment

The value of drawing equipment is based on three things—production per unit, sliver quality, and operating cost. We claim, and can prove, that Ideal High Speed Ball Bearing Drawing* excels in all three.

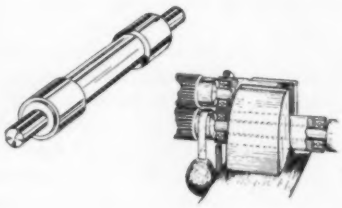
Production

This depends on consistent operating speed. Ideal Drawing will run smoothly and safely at speeds in excess of 450 feet per minute. The exclusive features which make this possible are as superior to ordinary drawing—old or new—as a jet engine is to the propellor type.

A Typical Ideal Installation

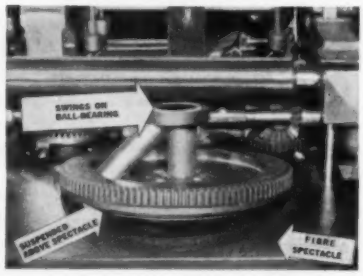
Sliver Quality

Ideal's new principle automatically evens out thick and thin places in the roving, and prevents bruising or cutting of stock. Ideal's exclusive Flute construction imparts a permanent, strength increasing crimp to the stock. Hundreds of strength and evenness testers are daily recording the superiority of Ideal sliver.



Ideal Spacing Section

This is one of the several valuable features found only on Ideal Drawing. These patented ball bearing spacing sections carry *all* of the weight of the rolls . . . transmit *no* resistance . . . and hence never wear to throw the rolls out of alignment. They deliver Ideal Feather-touch Drafting, at high speeds, month after month . . . year after year . . . without requiring maintenance or adjustments.



Can be installed on your present frames or furnished on New Ideal Frames

Ideal Coiler Tube Mechanism

The Coiler Tube Mechanism shown below, swings freely *above* the spectacle at high speed. Requires no oil or grease and puts more sliver in each can.

Economy

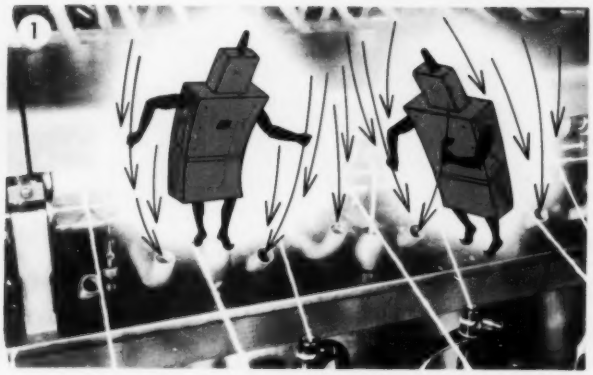
It costs you less to equip your mill with Ideal Drawing. It costs less in operating labor. Work stoppages for cleaning or reconditioning are practically nil. And one 3 HP motor drives 16 deliveries. Ideal Drawing is billions of pounds beyond the experimental stage and is giving supreme satisfaction in hundreds of mills. We'll be glad to give you the names of nearby users. It will pay you to write for full information on Ideal before you buy.

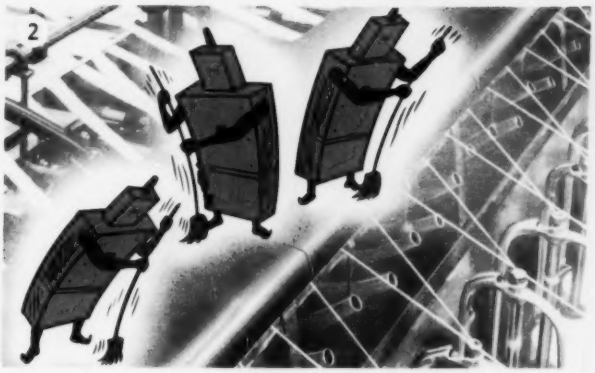
*Patent Nos. 2,610,363; 2,490,544; 2,412,357. Other patents pending.

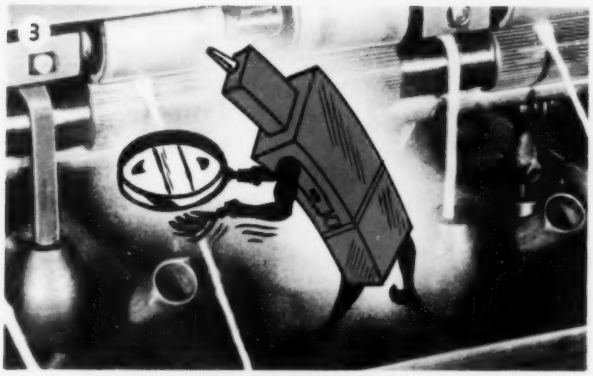
Ideal

Industries, Inc.

Bessemer City, N. C.







PNEUMASTOP®

ON GUARD!

1. **HUMIDITY—WHERE IT'S NEEDED**
   Pneumastop literally pulls the humidified air down into the drafting area where it is *really needed*. This means fewer ends down, frame stops, and lap ups. Naturally quality is vastly improved.

2. **CLEANLINESS—A MUST FOR THE MODERN MILL**
   Pneumastop's powerful suction at work in the fly generating area, is constantly picking up loose fly and trash. The result is cleaner frames. For example, flyer picking can be cut in half.

3. **PNEUMASTOP—PRIVATE EYE**
   Flug (slubs, gouts, and foreign matter) is removed from every inch of the strand of roving. There is less fly, so the roving goes to the spinning room cleaner, stronger, more even. Actual tests show that because of Pneumastop, spinning room ends down can be reduced as much as 30%!

4. **ON GUARD—FOR BROKEN ENDS**
   When an end breaks, Pneumastop *immediately* grabs the end keeping it from doubling or knocking down adjacent ends. The frame is instantly stopped (of course, there is a time delay at the traverse change) and at no time is the broken strand ever out of control.

Hard working, "low wage" Pneumastop is one of the most practical and profitable investments you can make for your mill. Write for more details . . .

PNEUMAFIL CORPORATION

CHARLOTTE 8, NORTH CAROLINA

Atlanta, Georgia • *Needham Heights, Mass.*

Copyright 1956 Pneumafil Corporation

175,000 spindles in 40 mills are being equipped with Pneumafil® each month!

The all new Pneumafil system converts spinning frames to sparkling, cleaner than ever frames with higher than ever spinning efficiency—and with better than ever yarn quality too!

This new Pneumafil equipment was developed after 10 years of working with mills on their spinning problems. New improvements, now in the making, will naturally be incorporated in or adaptable to this new flexible Pneumafil system, giving you the very best long and short range investment of this type equipment available—ANYWHERE!

Remember—there **is** *a difference.*

PNEUMAFIL®

PNEUMAFIL CORPORATION

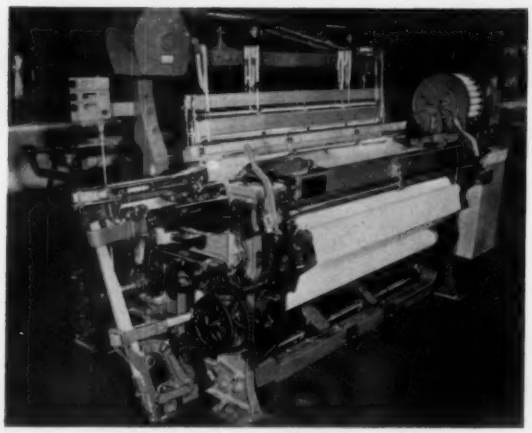
CHARLOTTE 8, NORTH CAROLINA

Atlanta, Georgia *Needham Heights, Mass.*

NEW EQUIPMENT PARADE

Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors



New X-2 Model Looms Increase Weave Room Versatility

The adaptation of recently developed features on the new Draper X-2 loom, which now weaves fine cottons and synthetics (spun or filament) equally well, permits a wider range of fabrics to be woven efficiently.

High-roll ratchet take-ups of new design, with double take-up rolls (rubber covered), provide the increased frictional surface needed to hold the cloth when weaving synthetics. A separate wind-up driven from chain and sprocket from the lower take-up roll provides for easy doffing. A pressure roll, acting against the lower take-up roll, holds the woven fabric securely and permits doffing the roll of cloth wthout stopping the loom.

This loom may be equipped with a clock spring top or a dobby head. Equipped with center fork filling motion, the X-2 is an efficient, economical loom for many synthetic weaves.

Other new constructions also included with this loom are: linkage type parallel assembly, which gives a more uniform controlled picking action, improves over-all loom operation, and reduces wear on pick motion and parallel parts; a light weight aluminum pick arm and lug strap connection permitting smooth picking action; a transmitter-type drive for smooth, quick starts and positive braking action.

Draper Corporation, Hopedale, Mass.

Do you want more data? Write ◆ or use card on page 179; list G-101

Acetate Bulked Yarn Available

A new acetate bulked yarn is currently being produced in limited quantities, both natural and solution dyed, and is expected to be in volume production shortly.

Called Celaperm bulk yarns, they provide a fresh creative approach to texture where dry, crisp, and worsted effects are required. This bulked fiber makes possible the desirable loft, light weight, and subdued luster so necessary to achieve the luxurious hand and look of finer fabrics.

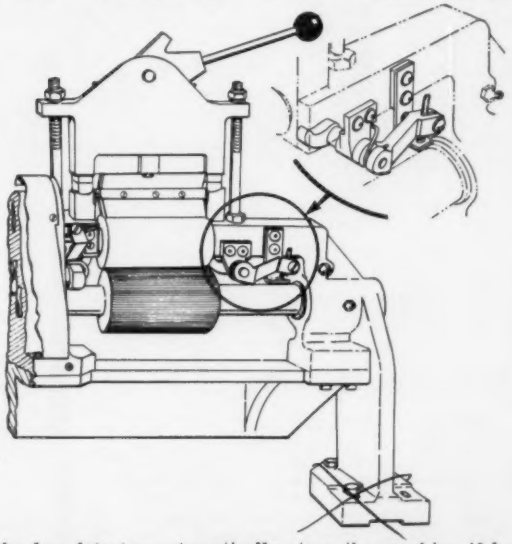
Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y.

Do you want more data? Write ◆ or use card on page 179; list G-102

Device Stops Pin Drafter When Laps Form on Rolls

A new lap detector stop motion unit, designed to prevent uneven delivery of stock and possible resultant equipment damage, is now available for application to Warner & Swasey dual-can, quad-can, or ball-delivery Pin Drafters. This lap detector can be installed on all machines not originally equipped with the device.

Mounted on both sides of the Pin Drafter's pressure roll or cot brackets (see accompanying sketch of device),



the lap detector automatically stops the machine if laps form or build up on the drafting or pressure rolls.

Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

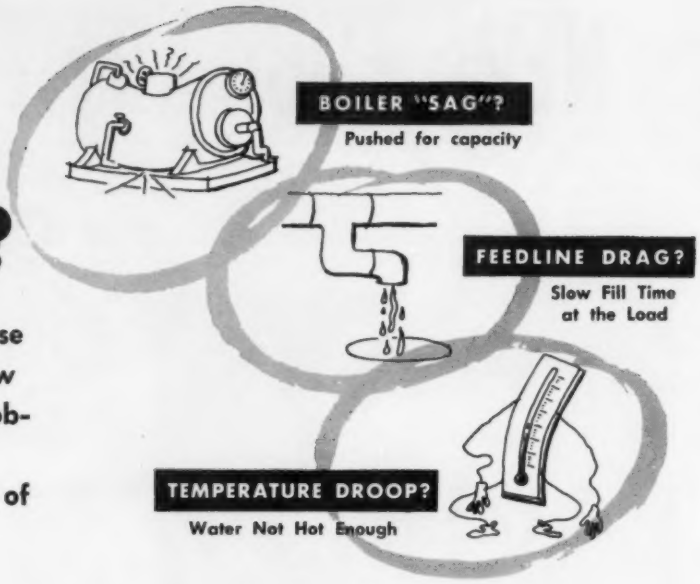
Do you want more data? Write ◆ or use card on page 179; list G-103

Circular Knitter Makes "Morpul" Socks with Patterns

"Morpul" socks with patterns may be produced on a recently developed knitting machine which uses rubber yarns either behind or in front of the needles to give the desired effect. Cuff down Morpul socks, misses' and mens' knee-high campus socks, mens' slack socks and half hose, and mens' and boys' anklets can be knitted

HOT WATER PROBLEMS?

If you have the first of these problems you already know it. The other two, (easily job-checked by recorders) may be taking money right out of profits, every day! *



Introducing the SCHAUB ISO-THERM SYSTEM

The FIRST Storage Water Heating System that:

- **Stretches boiler capacity—completely eliminates overloading and peak steam demands.**
- **Insures constant "full" water temperature—regardless of load.**
- **Feeds hot water to load quickly—cuts fill time.**

*** Want the Proof?**

Temperature and pressure drop-offs or fluctuations in the supply header to your loads indicate the efficiency of your storage water heating system. Your Schaub representative will "lend" you — *without cost or obligation*—continuous temperature and pressure recording instruments. After your own check — *made by you* — you'll definitely and positively be able to decide whether your present system is delivering profits or draining dollqrs!

Write for full details and new booklet.

FRED H. SCHAUB ENGINEERING CO.

2104 South Marshall Boulevard
Chicago 23, Illinois

The Schaub Iso-Therm is the *first* storage water heating system that supplies *any* quantity of hot water needed at *any* one time (for fast multiple fill) at a *constant*, predetermined temperature . . . yet never draws steam from the boiler beyond the average economical gph heating rate.

Totally new in concept, the Schaub Iso-Therm System has proved to . . .

Keep boiler pressure UP

Reduce water, soap, detergent and softener needs

Fill machines faster

Keep water temperature and pressure constant at the machines for most efficient operation

Reduce fuel costs by leveling off peak demands on boiler

In addition, if your present boiler is now pushed to capacity, the Schaub Iso-Therm may enable you to defer purchase of a larger boiler that may cost far more than the complete Iso-Therm System.

Get the facts and technical data *now*. Write for Bulletin No. 923. Easy to read, packed with interesting data, it may show you the way to more profitable operation. Send for it today!

on this machine which is designated Pattern Morpul Machine, Model RSVP.

Once the patterns are secured by the rubber yarns, they are locked in place by backing yarns fed in at other points on the machine. Five basic yarn fingers for body yarns, one rubber finger for the rubber yarn, and two fingers for backing yarns are incorporated in the knitter, which utilizes a 25-step selector drum for needle selection for an unlimited variety of patterns. Any type of rib or any combination of rib types can be combined in one sock.

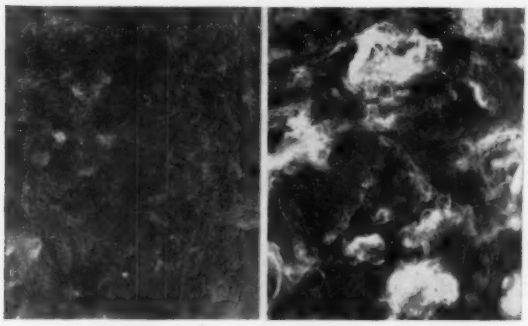
By a combination of mesh type stitch and rib stitch, squares, blocks, and other patterns are introduced. A very wide variety of color combinations is effected by yarn changes and in the use of two colors in both the rib and the mesh stitches.

Edley Machine Company, 1914 English St., High Point, N. C.

Do you want more data? Write ◂ or use card on page 179; list G-104

"Shirley" Beater Section Improves Blending at the Picker

For spinners who process both cotton and synthetics, and those who blend two or more colors, is the new "Shirley" Beater Compartment which can be applied to the picker. The unit improves blending and lap forming



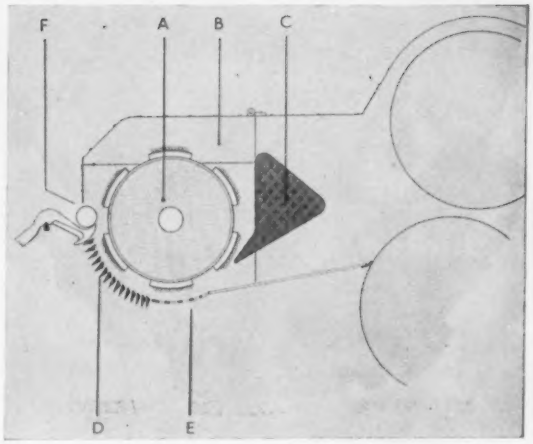
At left is photo of rayon blend after processing on picker equipped with Shirley Beater Compartment; right, blend from same mix after processing on conventional picker.

on almost all types of cotton or synthetic staples up to about 1½" in length.

Developed by the British Cotton Industry Research Association, the beater section is manufactured by Tweedales & Smalley (1920) Ltd., Castleton (Rochdale), England.

Essentially the unit consists of six Kirschner beater lags mounted (equally spaced) on a steel cylinder, and operating under rigidly controlled air currents to create a pneumatic stripping effect which cleans the lags of all nep-producing fibers. The sixteen-inch beater operates at 950 rpm, and as a result of this speed and the comparatively fine teeth on the beater, the material is combed from the feed in small tufts. Thus, thorough blending results.

The accompanying sketch shows the beater at **A.** The low pressure cover **B**, combined with the air inlet **F**, achieves pneumatic stripping as in the "Shirley" opener. A baffle **C**, across the full width of the compartment, controls the air currents set up by the beater rotation and allows fiber deposition to be controlled by the air currents admitted below the beater and above the feed rolls. The grid bars **D**, set at ¾" minimum, continue almost to the center line of the beater and if desired can



replace the perforated metal sheet **C**. The extra air drawn in requires added exhaust capacity, which usually is effected by higher fan speeds.

John Hetherington & Sons Inc., P. O. Box 122, Gastonia, North Carolina.

Do you want more data? Write ◂ or use card on page 179; list G-105

Compact, Automatic, Single-Pass Dryer Achieves High Production in Little Space

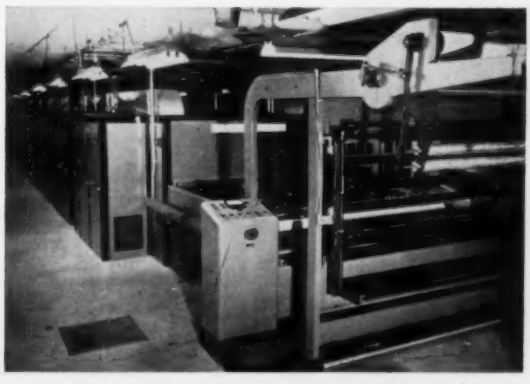
A new type jet single pass tenter dryer, the "Uniflow," for spun synthetics, blends, woolen and worsted fabrics delivers at a very high rate of production per linear foot of floor space.

The air system provides the following:

1. A complete uniformity of airflow to insure: (a) even drying from side to side; (b) complete elimination of color migration either across the face or from back to face; (c) elimination of damp selvages at top speed
2. Accessibility
3. Ease of maintenance and cleaning
4. Complete automatic control
5. Elimination of danger of dirt or grease spots

The dryer utilizes high velocity air impinging on the cloth from jets very close to the fabric.

An idea of the compactness and accessibility will be gained from the fact that a machine recently installed in one finishing plant is only 7 ft high. The overfeed, the cloth guide, folder drive, machine drive, and width regulating mechanism are all engineered into the dryer itself. All chain and timing belt drives are protected and

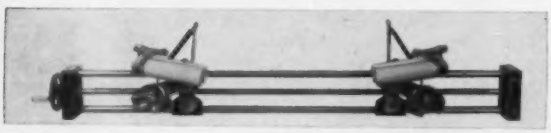


Mount Hope SYSTEM

PRECISION GUIDERS

Align Material accurately

Simple • Clean • Gentle • Automatic



soft, rubber-like new MH-31 Rolls handle all materials.

Install individually or as an integral part of the Mount Hope System.

Write General Sales Manager for complete information.

MOUNT HOPE MACHINERY COMPANY

153 Fifth Street • Taunton • Massachusetts

Southern Repair Shop, Charlotte, N. C.

enclosed in small, readily accessible space. The motors are at floor level, easily reached without resorting to ladders or penthouses. A built-in spray oiling system is installed at the feed end of the dryer, which runs continuously when the dryer is in operation and keeps the chain lubricated. All bearings on the entire machine are outside the heat and easily reached, which decreases the problem of lubrication.

The entire assembly of the fan and heater chamber is such that a man can walk in from both sides simply by opening a door, and can work on or clean any part of the machine without taking off panels. When the door to each fan chamber is opened, the heaters are immediately exposed to view. Also, the screens which are placed in front of the heaters for filtering are mounted on the inspection door, so when it is necessary to clean the screens, all the operator has to do is open the door and the screen will swing out into the room where it can be brushed off, and then the door shut again. This eliminates the necessity of handling heavy, hot screens.

All controls are mounted in two cubicle type panels at the front of the dryer, so that the operator can attend the machine with a minimum of effort. An automatic drive is used. Another control feature is dynamic braking — even at top speed, the dryer will stop within 18" after the push button is depressed. The same new control feature allows automatic acceleration. Once it is stopped and started up again, it will automatically come back to its preset speed.

A new type pneumatic overfeed has been designed with pressure applied on each nip roll, which can be separately adjusted from side to side.

James Hunter Machine Co., North Adams, Mass.

Do you want more data? Write ◂ or use card on page 179; list 6-106

Double Suction Cleaner for Woolen Spinning Frames

Broken roving ends above the table are whisked away, as well as broken ends below the front draft rolls, with a double suction cleaner produced by Thoma Company, Inc., for use on wool spinning frames.

Advantages offered include better control and central collection of broken ends, no stripping back of bobbins

from doublings formed above the fly board, reduced ends down from lap-ups and whip ends, increased work loads, and better quality.

Broken ends are picked up by vacuum through duralumin tubes and transported to a box mounted on the frame. The tubes lock into place, resist warping and rust,

and can be removed with a gentle twist and pull. The box has a baked enamel finish, a plexiglas door, and can be completely disassembled on the frame by the removal of ten screws.

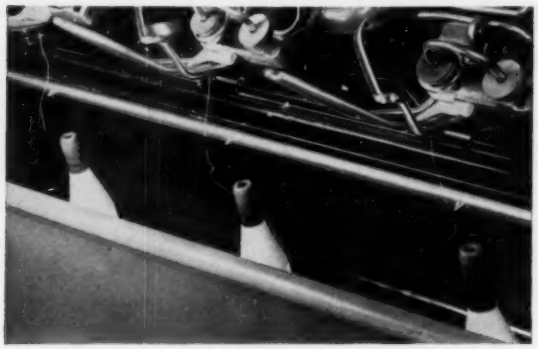
Stellite American Corporation, 60 E. 42nd St., New York 17, N. Y.

Do you want more data? Write ◂ or use card on page 179; list 6-107

Cone and Cheese Winder Features Unwinding Accelerator

A cone and cheese winder, Model BKN, designed for the production of conical and cylindrical packages suitable for weaving and dyeing purposes, permits stepless regulation of the yarn speed up to 1300 ypm without damaging the yarn.

An unwinding accelerator enables the yarn to swing off the bobbin in the form of a bow, thus preventing the



heretofore unavoidable surface friction of the yarn on the body of the bobbin, and also preventing the yarn coming off in spirals and kinks. The friction connected with the unwinding of the yarn is reduced by the accelerator to less than one-third of the amount measured without it. During the run-off from the spinning bobbin, the yarn tension remains almost constant from the beginning to the end.

Ideal packages for dyeing can be made on the BKN machine, in any desired degree of softness, at unusually high yarn speeds and low winding cost. These packages permit excellent penetration of the dye bath.

The movements to be made by the operative, and the time they require have been reduced to a minimum by placing all controls within easy reach. On depressing a conveniently located lever, the yarn is threaded autqmatically into the yarn tension device, the clearer, the stop motion detector, and the grooved cylinder.

American Schlafhorst Co., 3000 South Blvd., Charlotte, N. C.

Do you want more data? Write ◂ or use card on page 179; list 6-108

Get Color Fastness and Uniformity in Carpets with this Rayon Staple

"Kolorlok," a new viscose carpet-rayon fiber, is colored by the solution-dye process which makes the color an integral part of the fiber. Thus, the color of carpets made of yarns composed of this fiber is fast and uniform, offering practical advantages both for the consumer and carpet dealer.

The color of the fiber is not affected by chemical cleaners and bleaching agents found in the home, permitting

work **... says "Mark-O-Merit" ®**

moves *faster*

when you use ...

Shamrocks

Let a Shamrock representative check your plant. His constant contacts with mill operations can prove helpful to your problems.

Your Shamrock representative is a trained *specialist* in the application of Shamrock Canvas Baskets and Trucks to varied plant operations. He can help in suggesting efficient work flow systems—using standard or made-to-order Shamrock styles to fit your particular plant needs. *Get his helpful advice!*

Shown above is the Shamrock No. 19 Truck, leather reinforced around top rim and at ends of strips; this Shamrock is being used for transporting yarn on cones. For complete information, write direct or contact nearest sales office listed below. MEESE, INC., Madison, Indiana.

SALES OFFICES: NEW YORK—F. R. Tyroler, 55 West 42nd St., PE 6-0615; ATLANTA — W. E. Petway, 2577 East Densley Dr., North Decatur, Ga., ME 4-4011; FORT WORTH — V. M. Hooton, 4220 Normandy Road, Tel. JEfferson 6-6564; WEST COAST — Petersen-Daniels, Inc., 3311 Beverly Blvd., Montebello, Calif., RAymond 3-7003. Export Mgr. — R. A. Auerbach, Easton, Pa. Cable Address: "Natly."

SHAMROCK

canvas baskets • hampers • trucks

Steam-Detergent Hurriclean Gun Speeds Mill-Wide Cleaning

Weighs only 6 1/4 lbs., yet the amazing new Oakite "Hurriclean" steam-detergent gun is a match for your toughest cleaning jobs. It's safe — steam travels in insulated inner tube, cool detergent solution in outer tube. And easy to operate! A mere twist of the rubber grip changes direction of spray.

Use the "Hurriclean" gun throughout the mill — for cleaning looms, spinning machines, slasher drums, tenter chains ... for walls, floors, ceilings ... for paint-stripping. Ask your local Oakite representative about it, or write to Oakite Products, Inc., 26C Rector Street, New York 6, N. Y.

OAKITE

Export Division Cable Address: Oakite

Technical Service Representatives in Principal Cities of U. S. and Canada

the removal of iodine, permanent ink, animal urine, and other common household stains. It is also resistant to fading by sunlight, salt air, and sea water.

More perfect color matching from room to room is possible when a carpet made from this fiber is installed throughout a floor, and from piece to piece when a carpet is matched in a single room.

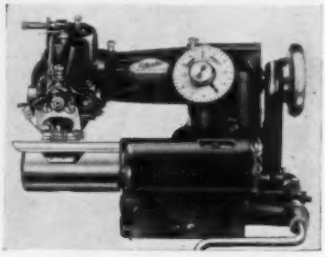
Currently available in 15 denier 3" cut, Kolorlok staple is produced in ten colors with bright luster and eight colors with dull luster.

Hartford Rayon Co., 136 Madison Ave., New York, N. Y.

Do you want more data? Write ◂ or use card on page 179; list G-109

Machine Does Mock Fashion Stitching on All Types of Sweaters

The Columbia Model 300-MF machine is a new, high-speed, compact machine for simulating the full-fashion operation on sweaters and uses a single thread, either yarn or cotton.



Designed to provide the closest appearance to full-fashioning, the machine is fitted with adjustable gauges and a stitch-penetration adjustment to work perfectly on sweaters of all types and weights. Also, little experience is required to operate the machine which can be used for regular blindstitching.

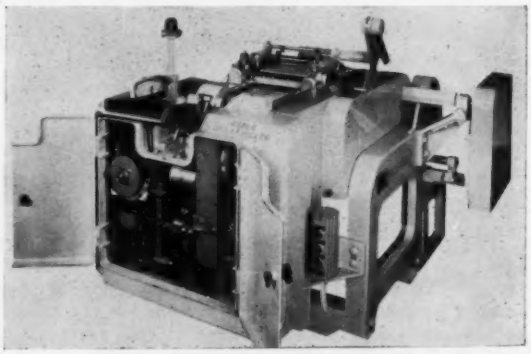
Columbia Sewing Machine Corp., 315 West 35th St., New York 1, N. Y.

Do you want more data? Write ◂ or use card on page 179; list G-110

Constant Weight of Sliver Delivered Is Feature of New Gill Reducer

A new, high-speed, single-head, heavy-duty Gill Reducer, equipped for single can or single ball delivery, is now available with the Raper Autoleveller (*for advantages and construction details, see p. 112,* TEXTILE INDUSTRIES *for May, 1955).*

Although any Gill Reducer materially improves short



term unevenness, the Autoleveller-equipped machine essentially rectifies long term variation, thereby allowing weight and count integrity in the roving and spinning

operations.

Autoleveller Gill Reducers when used after Noble or French combing show considerable increase in the efficiency, thereby greatly increasing production of that operation, and allowing the top maker to deliver a top of maximum evenness and guaranteed weight.

When used in the first drawing operation, the machine rectifies existing unevenness from dyeing, blending, or recombing.

The new machine is a heavy-duty type, allowing ingoing weights up to 6,000 grains per yard.

Holdsworth Mfg. Co., 55 Sabin St., Pawtucket, R. I.

Do you want more data? Write ◆ or use card on page 179; list 6-111

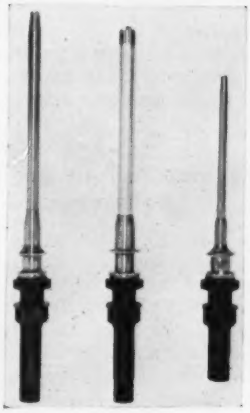
Improved Scouring of Tricots and Marquisettes

Scouring of nylon and acetate tricots and marquisettes in Burlington machines can be greatly improved through the use of a new agent, Dextrol Scour SO-17. The product is a completely emulsified, high-boiling, non-toxic, solvent containing wetting agents and detergents. Because it produces an extremely fine solvent-emulsion in all dilutions, it eliminates free solvent in the bath and residual odor in the goods.

Dexter Chemical Corp., Textile Chemical Division, 819 Edgewater Road, New York 59, N. Y.

Do you want more data? Write ◆ or use card on page 179; list 6-112

Anti-Friction Spindle Permits Higher Speeds and Larger Packages



Roberts anti-friction spindles for filling quills, wood warp bobbins, and paper tubes utilize precision ball bearings in all-steel base and permit higher spindle speeds and larger packages. Plumbing is quicker and more accurate.

Almost complete elimination of oiling is made possible since only a maximum of two drops of oil per bearing every three to five years is required.

The design permits smaller whorl diameters, affording considerable reduction in cylinder speeds. Power consumption is reduced; and the life of cylinders, cylinder bearings, tape tension pulleys, and tape is extended.

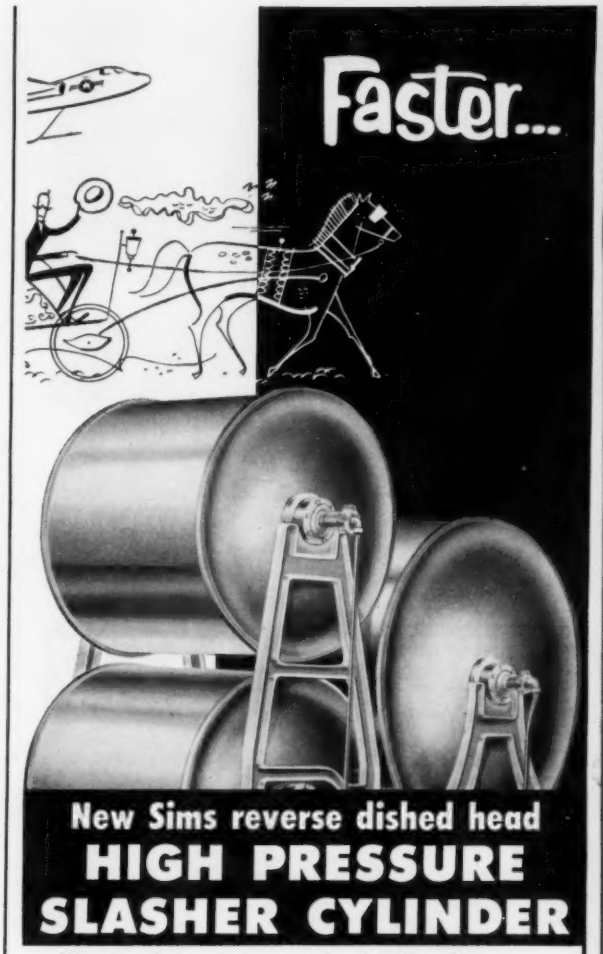
Roberts Co., Sanford, N. C.

Do you want more data? Write ◆ or use card on page 179; list 6-113

Improve Tensile Strength Testing of Tire Cord with this Equipment

Improved tensile testing of tire cords by means of new "Spruance Clamps" and auxiliary equipment for a semi-automatic testing cycle, is now available on the IP-4 Tensilgraph.

The clamps are pneumatically actuated, and have these



New Sims reverse dished head
HIGH PRESSURE
SLASHER CYLINDER

Why jog along using conventional 12-lb. psig. working pressure cylinders in slashers or dryers for printers? Now you can get the new, far more efficient 50-lb. psig. working pressure Sims reverse dished head High Pressure Slasher Cylinders.

You can step up production almost incredibly with the new Sims reverse dished head High Pressure Slasher Cylinders. They can be installed in your present slasher framework, using journals and bearings already there.

Here are ASME Code-stamped cylinders which will carry a load much greater than conventional cylinders. Available in 5′, 6′ or 7′ diameter by 60″ through 72″ faces. Stainless steel cover with ASTM-A Grade C, flange quality reverse dished heads.

for ECONOMY and QUALITY

Our modern and progressive metal-working shops, our skilled craftsmen, our know-how—these are guarantees of quality.

For custom tailoring of stainless steel, call, wire or write now.

Sims
METAL WORKS
WEST POINT, GA.

Fabricators Since 1928

QUALITY CONTROL

Ring sections showing carbon penetration for hardness and softer core area for strength.

The know-how acquired in 83 years devoted solely to ring making is supplemented here by the most modern scientific apparatus for Quality Control. Trust DIAMOND FINISH — you cannot buy finer rings.

WHITINSVILLE (MASS.) SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas: W. K. SHIRLEY, 25 Oak St., Belmont, N. C.
Rep. for Ala., Ga., & Tenn.: H. M. JACKSON, 216 Longview Dr., Jefferson, Ga.

Speeding Up?

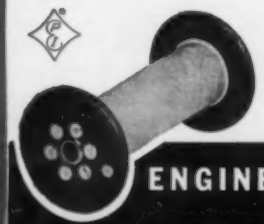
The EPI Plastic Bobbin* will Save you Money

Speeding up on any type yarn calls for the EPI Bobbin. Dynamically balanced, dimensionally stable, permanently super-smooth—and outlives several wood bobbins.

Let us prove it!

Representatives: J. H. Windle, Jr., 231 S. Main St., Providence, R. I.; R. P. Bennett, 333 Ridge St., Honesdale, Pa.

*U. S. Patent 2,625,343



ENGINEERED Plastics INCORPORATED
Gibsonville, North Carolina

advantages: automatic adjustment of clamps compensates for varying cord diameters; uniform pressure upon cord assures no crushing, no slippage; twist is not disturbed; uniform tension is assured. In addition to the greater precision thus assured, the new clamping system as integrated into the Scott Tensilgraph also permits much faster production testing.

Standard Scott IP-4 incline-plane Tensilgraph may be ordered with this feature, or it can be applied to existing IP-4 Tensilgraphs.

Scott Testers, Inc., 60 Blackstone St., Providence, R. I.

Do you want more data? Write or use card on page 179; list G-114

Creeling Ladder Makes Handling Easier, Faster, Safer

A creeling ladder now available consists of a mobile ladder with a large metal basket - type container mounted on top. It enables the user to speed operations by carrying a quantity of cheeses or other types of yarn packages quickly and easily from one location to another.

High places can be reached safely without straining. The ladder rolls smoothly on 4" ball-bearing casters and locks to floor tightly by foot-operated Ballylock.

The device saves time and employees' energy by eliminating the necessity to reach down to the floor for packages of yarn to be creeled.

Ballymore Company, Wayne, Pa.

Do you want more data? Write or use card on page 179; list G-115

Pneumatic Two-Roll Padder Gives Uniform Roll Pressure Up to 26,000 lb

Under the trade name of Maag (Swiss), a two-roll padder which has pneumatic controls on both the rolls and the trough, is now available to mills in this country. A special valve makes possible uniform pneumatic control of roll pressures up to approximately 26,000 lb.

Finishing and dyeing can be done at selected speeds. Controls are conveniently placed at the right side of the machine.

Two types are offered. One has the conventional type of immersion roll, the other has an additional squeeze roll mounted against the immersion roll to dispel air from the fabric and to increase penetration.

Trumeter Company, 1265 Broadway, New York 1, N. Y.

Do you want more data? Write or use card on page 179; list G-116

3-D Microscope Makes Fabric Analysis Easy

A new model Leitz textile stereoscopic microscope is recommended for the analysis, dissecting, and repair of textiles. When equipped with a thread counting attach-

ment, it simplifies the counting of picks and ends in fabrics by means of a pointer in a precision slide.

The microscope offers an exceptionally wide field, eliminating the necessity of frequently moving the material. It also has a long working distance, thus permitting the inspector to use dissecting needles. Its true stereoscopic vision, giving third dimensional effect, brings into sharp relief the individual yarns of the cloth and permits the use of the instrument over long periods without undue fatigue.

George Scherr Optical Tools, Inc., 200 Lafayette St., New York 12, N. Y.

Do you want more data? Write ◂ or use card on page 179; list G-117

Attachment Converts Winders To Make Cones for Tufters

Converting to 7 degree 22½ minute cones is now made possible for users of Universal Winders 6 and 8. An attachment designed to be applied either to the one- or two-piece traverse frame consists of a cone holder and spindle extension to hold a 7° 22½' taper cone.

Instead of a spiral traverse frame back that must be machined to agree with the required taper and customarily used for guiding the traverse guide holder, this attachment is designed with an adjustable guide rod.

The purpose of the guide rod is to provide thrust for the traverse guide holder the same as is done with the more elaborate traverse frame back.

Universal Winding Co., P. O. Box 1605, Providence, R. I.

Do you want more data? Write ◂ or use card on page 179; list G-118

Direct Beam Drive Warper Prepares Hard or Soft Beams for Slashing or Dyeing

Now available to mills in the United States is a dual purpose warper with direct beam drive and stepless speed control up to 660 ypm. Designated Model EZD, this warper can be used either for producing section beams for the slasher, or quickly set up for running soft or extra soft beams for penetration of dyestuffs.

This new universal beam warper features good yarn protection, simplified construction, and easy operation. The beam is driven at constant speed through an oil drive and duplex chains controlled through the presser roll which actuates the oil drive to reduce the beam speed as the yarn builds up. The presser roll, in addition, is preset to control the yarn density. The warper attains its running speed smoothly.

Both beam arms are rigidly interconnected to prevent building cone-shaped beams; the measuring roll has a large diameter to offset slippage when starting and stopping, and the comb is cleaned by compressed air directed from below. The beam swings in and out under power,

Less man-power and more **hydraulic** power in lift trucks— the **American Safeway** Truck helps you move, stack, lift or lower heavy goods in your plant with greater efficiency. **23 models**

VISIT US AT THE SOUTHERN TEXTILE EXPOSITION— BOOTH No. 251

DISTRIBUTORS IN PRINCIPAL CITIES

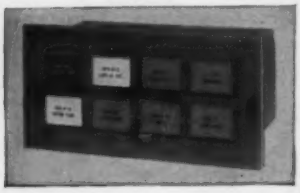
The American Pulley Company

MATERIALS-HANDLING DIVISION

4232 Wissahickon Avenue

Philadelphia 29, Pennsylvania

Panalarm Annunciator Systems Pinpoint Trouble on Process Operations and Automatic Machinery



Panalarm Annunciators are modern working tools used by management concerned with top output from a process or an automatic or semi-automatic machine. They give the operator control over his equipment, enabling him to produce more and better products at a greatly reduced reject rate.

Panalarm Annunciators are coordinated, multiple-unit signal systems that instantly alert the operator to off-normal process conditions at predetermined control points. The signals are both visual (illuminated windows or bullseyes) and audible (horns, bells, etc.). The Panalarm circuit is actuated by the closing or opening of any type of remote switch.

The system is modular, and it is completely flexible in operation and easily modified for future needs. Heavy duty construction to instrument standards throughout. Completely prewired, simple to install. Panalarm systems are engineered to your specific requirements.

Write for Bulletin 100A

PANALARM DIV., PANELLIT, INC.

7513 North Hamlin Avenue, Skokie, Illinois
Panellit of Canada Ltd., Toronto 14

PERKIN CENTENNIAL

► Back in 1856, a learned Englishman, Sir William Henry Perkin, created something of a stir in textile circles by developing the first man-made color, something of an off-shade mauve. He developed several others later but 1856 was established as something of a landmark in textile dyeing and finishing.

► Since that figures out to be a hundred years ago, Sir William is no longer around, but if he could drop in at the Waldorf Astoria Hotel in New York City September 10-15, we believe he would be right proud of the dyeing and finishing progress which will be reviewed in meetings of the leading chemical societies with our own good AATCC celebrating the Perkin Centennial at that time.

► Be sure and see the September issue of TEXTILE INDUSTRIES, which will feature the Perkin Centennial.

and a sensitive stop motion and hydraulic brakes provide a very short stopping time.

American Schlafhorst Co., 3000 South Blvd., Charlotte, N. C.

Do you want more data? Write ◄ or use card on page 179; list G-119

Equipment Briefs

V-Belts Reinforced with Steel Cable. Heavier loads may be accommodated with smaller sheaves or fewer belts when the steel cable V-belts recently placed on the market are utilized. Strength is greatly increased and stretching is negligible, because of the high tensile strength of the cable with which the belts are reinforced. Design is such that the entire body of the belt is under compression for minimum slippage and wear. Belts are ideal for installations where diameters, widths, and centers of sheaves are restricted.

Durkee-Atwood Co., Industrial Div., Minneapolis 13, Minn.

Do you want more data? Write supplier or use card on page 179; list G-201

Laboratory Stirrer. A new laboratory stirrer is designed for general laboratory stirring as well as a shaker drive for Van Slyke apparatus and separatory funnel extractions. The stirrer operates on 110-volt, 60-cycle, single-phase current. Eleven speeds are possible, through a controller, from 100 to 1200 rpm.

Gerald K. Heller Co., 1 North Carey St., Baltimore 23, Md.

Do you want more data? Write supplier or use card on page 179; list G-202

Silicone Wash and Wear Emulsion. For use in wash and wear finishes, Cravaco APS is compatible with the various types of resins used in such finish formulations, and imparts to the fabric the additional qualities of resistance to abrasion, increased tensile strength, and very rapid drying.

The Cravenette Co., USA, 8th and Madison Streets, Hoboken, N. J.

Do you want more data? Write supplier or use card on page 179; list G-203

500-lb-Capacity Portable Hydraulic Lift. Designed for handling small, yet heavy loads, a new hand-operated lift can be used as a stacker or a work platform through a 24" x 24" reinforced steel plate that lowers flush to the floor to slide under loads. It has adequate lift height to reach benches, machine beds, etc., and its size enables it to be moved easily in crowded aisles, into over-the-road carriers, or onto elevators.

Oster Mfg. Co., Box 4326, Cleveland 36, Ohio.

Do you want more data? Write supplier or use card on page 179; list G-204

No Dismantling Necessary for Cleaning this Filter. Features of a new filter, called the IWF Industrial Filter, include a high-flow backwash design which eliminates dismantling for cleaning, four different filter elements to provide a suitable septum for most process needs, and batch or "on-stream" operation.

R. P. Adams Co., Inc., 225 East Park Dr., Buffalo 17, N. Y.

Do you want more data? Write supplier or use card on page 179; list G-205

Acrylic Type Film Forming Emulsion. Now in production is an acrylic type emulsion "Wicaset EHF," of polymeric material which fuses at 250 F to form a tough, tasteless, odorless, flexible film resistant to hot oils, boiling water, light, and heat effects. Furnished as 50% solids emulsion, it may be sprayed, thickened for roller

coating, or applied by impregnating.

Wica Chemicals, Inc., Old Concord Road, Charlotte, N. C.

Do you want more data? Write supplier or use card on page 179; list G-206

Fractional HP, Variable Speed Drives. Adjustable speed, fractional horsepower, "Adjusto-Spede" drives are now available with either integral electrically operated fail-safe friction brakes or integral speed reducers. Two brake ratings may be obtained — 18 and 36 inch-pounds of torque. Speed reductions are available from 5-to-1 to 100-to-1, depending upon drive horsepower rating. All have a continuous constant torque rating through a 25-to-1 speed range. Units consist of a-c constant speed induction motor, eddy-current coupling, and electronic control.

Eaton Mfg. Co., Dynamatic Div., Cleveland 10, Ohio.

Do you want more data? Write supplier or use card on page 179; list G-207

Acetate Dye Fast to Gas Fading and Sublimation. Recently made available was Artisil Scarlet GFL Ultra-dispersed which dyes acetate in brilliant yellowish scarlets with exceptional fastness to light, washing, gas fading, and sublimation. Dyes triacetate, polyester, and acrylic fibers, and nylon.

Sandoz Chemical Works, Inc., 61-63 Van Dam St., New York 13, N. Y.

Do you want more data? Write supplier or use card on page 179; list G-208

Caster Receptacles Render Box-Stacking Safe. Box trucks equipped with a new type stacking plate will not shift when stacked in multiple tiers. The plates feature

circular rims approximately 1" in depth, and are secured to each corner of each box to receive the casters of the subsequent layer.

G. B. Lewis Co., Watertown, Wis.

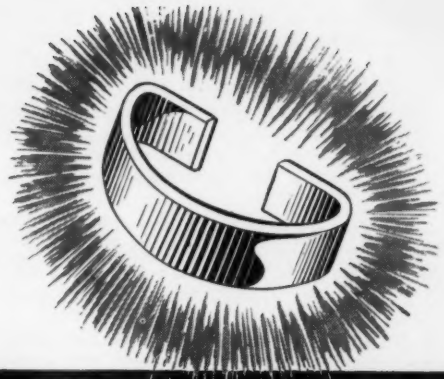
Do you want more data? Write supplier or use card on page 179; list G-209

Automatic Controls for Fractional HP Motor Drives. Formerly employed only on drives ranging in capacity from 1 to 40 hp, an automatic control, pneumatically actuated, is now available for the fractional series of Vari-Speed Motodrives, for principal use in continuous processing applications where the drive speed is required to vary automatically in accordance with changes in color, flow, weight, position, etc. A compensating feature has been built into the controller to secure a true and linear relation between changes in input air pressure and variable output speed.

Reeves Division, Reliance Electric & Engineering Co., 1225 Seventh St., Columbus, Ind.

Do you want more data? Write supplier or use card on page 179; list G-210

Meter Clocks Running Time of Machines. Available for circuits of 120, 240, and 480 volts, and 25, 50, and 60



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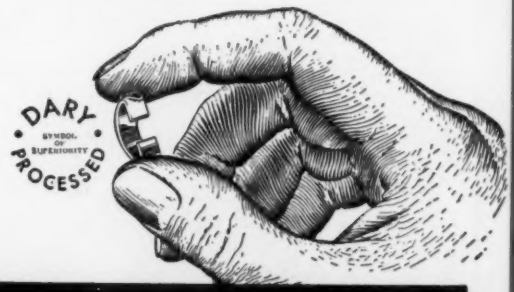

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LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

cycles, is a small device which clocks machine running times in 10,000 (in tenths)-hr cycles or in 100,000-hr cycles. Completely sealed against dust, moisture, etc., and powered by a synchronous electric motor, it will clock any equipment operating on alternating current, such as compressors, air conditioning units, pumps, motor generator sets, and lighting systems.

John W. Hobbs Corp., Springfield, Ill.

Do you want more data? Write supplier or use card on page 179; list G-211

Gearmotors Feature Many-Angle Mounting. Equipped with oil seals which permit mounting at almost any angle without leakage is a new line of gearmotors featuring a wide selection of mountings, enclosures, and ratios. Available in sizes ranging from 1 to 60 hp.

Reliance Electric & Engineering Co., 1088 Ivanhoe Rd., Cleveland 10, Ohio.

Do you want more data? Write supplier or use card on page 179; list G-212

Plastic Laminate Is Strong and Durable. Great strength, dimensional accuracy, uniformity, and stability under changing temperatures and humidities are advantages to be derived by using bobbins, spools, lap rolls, picking fingers, redraw caps, etc., made of Lamicoid, a laminated plastic material. This material will not chip or deform under normal usage; weighs less, runs cooler, withstands higher yarn compressive strengths, has longer life, and can be easily reworked. Also available in gear stock and gear blank forms; tubes up to 40" in length and 12" in diameter can be provided. Finishes range from satin to glossy.

Titania Div., American Lava Corp., Cherokee Blvd. and Manufacturers Rd., Chattanooga 5, Tenn.

Do you want more data? Write supplier or use card on page 179; list G-213

More Power With Less Space From Flat-Type Motor. Totally enclosed fan-cooled, or totally enclosed nonventilated a-c motors for operating in limited space are available. Weighing less than standard motors, they are of radial design, without precision alignment problems in maintenance, and range in sizes from 1/3 hp to 7½ hp.

Diehl Manufacturing Co., Finderne Plant, Somerville, N. J.

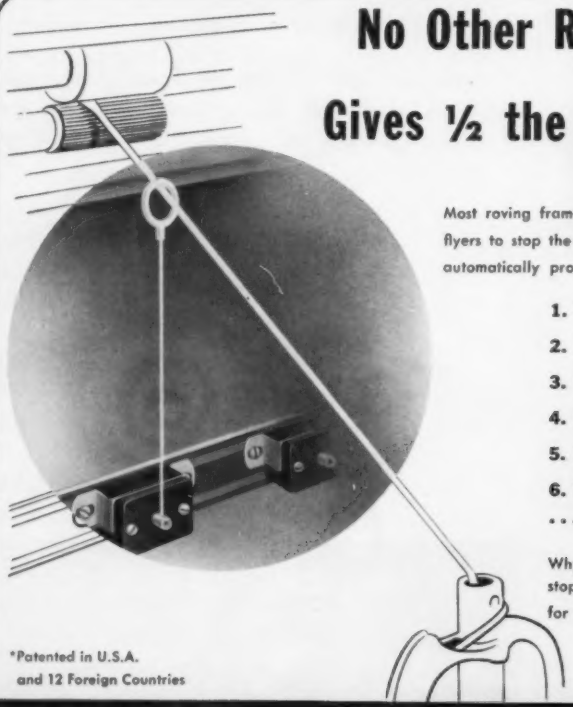
Do you want more data? Write supplier or use card on page 179; list G-214

For Printing Rayon and Cotton. Now available is Leucosol Black Double Paste, an anthraquinone vat dye, and a non-drying assistant paste offering good fastness to crocking and mark-off.

E. I. du Pont de Nemours & Co., Inc., Dyestuffs Div., Wilmington, Del.

Do you want more data? Write supplier or use card on page 179; list G-215

Solution-Dyed Black Nylon Yarn. Color-sealed black nylon is available initially in 200-denier, 34-filament count, packaged on standard bobbins, and will shortly be available in other deniers. It withstands continued strong sunlight, numerous washings, and has the physical properties of standard nylon yarn. The new yarn can be used in combination with other DuPont yarns in fab-



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ADAMS, INC., 4 East Lewis Plaza, Greenville, S. C.

rics for piece dyeing, and can also be treated by the various texturing processes applicable to nylon.

E. I. du Pont de Nemours & Co., Inc., Textile Fibers Dept., Wilmington, Del.

Do you want more data? Write supplier or use card on page 179; list G-216

Device Stops Machines When Vibration Range Is Exceeded. Failing bearings, broken blades, bent shafts, or any increase in "roughness" or vibration, are detected instantly by the "Vibraswitch," and the monitored machine is stopped to prevent further damage. Adjustable over a wide range of vibrations, the device is sealed in an explosion-proof enclosure for hazardous locations. Suggested uses: blowers, air compressors, motor-generator sets, and other rotating equipment.

The Beta Corp., Forest Ave. at Ridge Rd., Richmond, Va.

Do you want more data? Write supplier or use card on page 179; list G-217

Electric Fork Truck for Areas of Low Head Room. A highly maneuverable fork truck, with hydraulic lift, for loads of 2000 to 4000 lb, is designed to operate in cramped conditions of low head room, such as unloading street trucks in tunnels, basements, etc. Available as a battery-powered unit only.

Parker Electric Co., Cleveland 3, Ohio.

Do you want more data? Write supplier or use card on page 179; list G-218

Pipe Joint Sealer Withstands Corrosives. Practically all known corrosives are retained by "John Crane" Chemlon pipe joint compound when used in temperatures up to 212 F. Non-hardening, the compound possesses a low coefficient of friction which permits the joints to be drawn tight easily and, even after years of service, to be disassembled without difficulty; particularly adaptable for use on aluminum, stainless steel, Monel or plastic pipe.

Crane Packing Co., 6400 Oakton Grove, Chicago, Ill.

Do you want more data? Write supplier or use card on page 179; list G-219

Air Eliminator for High Pressure Equipment Venting. For automatically venting equipment using steam pressures from 0 to 150 psi, the Gorton H.P. No. 12 air eliminator was developed. Greater dependability and longer valve life are provided by the unit which is designed for fast venting and automatic closing on such equipment as dryers, steam coils, steam mains, etc.

Gorton Heating Corp., Cranford, N. J.

Do you want more data? Write supplier or use card on page 179; list G-220

Hand-Operated High Pressure Oiler Fits Standard Lubrication Fittings. Complete with metal rings anodized in various colors to be slipped over the head of each standard fitting to give a color code, and to make use of a grease-gun impossible, is a hand-operated pressure oiler designed to provide positive pressure lubrication with oils.

Lincoln Engineering Co., 5702-15 Natural Bridge Ave., St. Louis, Mo.

Do you want more data? Write supplier or use card on page 179; list G-221

ELEVATED STEEL TANKS

● For more than a century, COLE elevated tanks have been helping provide fire protection and adequate water reserve for the textile industry.

Capacities from 5,000 to 2,000,000 gallons—and covering designs ranging from standard hemispherical self-supporting bottom to spherical tank on tubular tower. Send us your inquiry, stating capacity, height to bottom and location. Write for *Tank Talks.*

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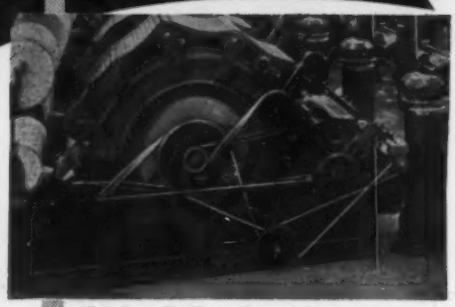

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Vibrationless, with little stretch and no slippage. For cylinder, vibrator, and grinder drives — no wear or effect on operation due to crossing. Complete stock of all popular sizes.

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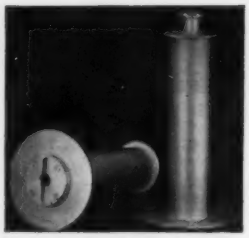


All - Aluminum Twister Bobbin for Use in High Temperatures. A new all-metal ring twister bobbin weighs approximately 12½ oz., and can be used in all the throwing operations calling for extremely high temperatures. There is an all-aluminum tube running through the center which acts as a full-length spindle bearing which should result in longer spindle life. The bobbin runs extremely well at accelerated speeds. The driving plate at the bottom is replaceable to take care of wear from the dog.

Cloverleaf-Freeland Corp., Hazelton, Pa.

Do you want more data? Write supplier or use card on page 179; list G-222

Vat Dye Not Affected by Dyebath Metals. An anthraquinone vat dye, National Carbanthrene Direct Black 3G Double Paste, is a non-drying paste which produces greenish-black shades on cotton and rayon. Applied by the various pigment methods, reduced bath, or printing, it is unaffected by the presence of metals in the dyebath. It can be used in all types of dyeing equipment and exhibits in heavy shades maximum fastness to light and excellent fastness to wet processing (including stoving, cross dyeing, and perspiration). Suitable for resin-finished goods and fabrics to be rubberized.

National Aniline Div. Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

Do you want more data? Write supplier or use card on page 179; list G-223

Device Measures Either Yarn Speeds or Spindle Speeds. An instrument called "Speedotex," manufactured by Dukes and Briggs Engineering Co., Ltd., Manchester, England, will measure either yarn speeds or spindle speeds, and is useful in equalizing tension of yarn feeds on large knitting machines.

Antex, 3 Tower Hill, London, England.

Do you want more data? Write supplier or use card on page 179; list G-224

Hot Water and Ice Cubes from Water Cooler. Aside from a pressure - type cooler which supplies both cold and hot water, there is an "Oasis" bottle-type which answers the "coffee break" need by supplying both cold and hot water, and from a built-in refrigerated compartment, two trays of ice cubes at a time. The manufacturer, or his distributors, also can supply, in self-service envelopes, instant coffee, instant broths, cups, etc.

Ebco Mfg. Co., Columbus, Ohio.

Do you want more data? Write supplier or use card on page 179; list G-225

Pick Clock Prints Record of Reading. Among the counters, including pre-set, measuring, revolution, and pick, manufactured by N. Zivy & Co. (Switzerland), is a pick clock which will record production figures (in thousands of picks), shift, and loom number in a simultaneous op-

eration on a 4¼" x 7" card. The picks are stamped manually on the card, always with the higher reading above the lower reading for ease of subtraction.

Stellite American Corp., 60 East 42nd St., New York 17, N. Y.

Do you want more data? Write supplier or use card on page 179; list G-226

Boom-Type Crane Handles Loads In and Out of Truck Trailers. Ten different movements, all controlled from a pushbutton station, can be accomplished with a boom-type crane now available for loading or unloading enclosed trucks or trailers. This crane moves back and forth on the craneway; the carrier traverses both directions on the crane bridge; the boom arm raises and lowers as well as swings both directions in an arc; and a special grab at the end of the boom engages or releases a box type load.

American MonoRail Co., 13107 Athens Ave., Cleveland 7, Ohio.

Do you want more data? Write supplier or use card on page 179; list G-227

Bright Red for Orlon Staple. "Sevron" Brilliant Red B is a bright, bluish-red cationic dye designed for dyeing types 42 and 39 "Orlon" staple. It dyes rapidly, builds up well, and has good fastness to light and wet processing. Level dyeings, particularly in light shades, are obtained by the use of Du Pont Retarder LAN. Its shade is unaffected by differences in the pH of dyebaths over the pH range of 3.0 to 10. Applications from neutral or alkaline dyebaths, however, cause a trace to appreciable loss in strength. It is suitable for dyeing blends of Orlon and wool or Orlon and rayon as its staining of wool and rayon is negligible. This dyestuff exhibits practically no affinity for nylon and has only moderate affinity for acetate and silk. On "Acrilan" acrylic fiber it exhibits good affinity and build-up, fair lightfastness, and good wetfastness.

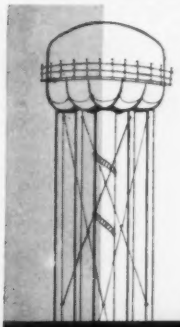
E. I. du Pont de Nemours & Co., Inc., Dyestuff Div., Wilmington, Del.

Do you want more data? Write supplier or use card on page 179; list G-228

New Books

Successful Handling of Labor Grievances, by Bertram R. Crane and Roger M. Hoffman, deals with the day-to-day administration of grievance contracts by giving practical suggestions for handling labor-management grievance problems. Recommended reading for all levels of supervision, and for all union officers, it is an analysis of tested and successful agreements taken clause-by-clause. Written in great detail, and containing several of the authors' original suggested grievance codes, it is available from Central Book Co. Inc., 261 Broadway, New York 7, N. Y.; price, $5.95

A companion booklet to his "Primary Aspects of the Power Loom," entitled *Secondary Aspects of the Power Loom,* has been written by W. Middlebrook. Included are chapters on side and center filling fork motions, loom braking systems, mechanical and electrical warp stop motions, loom temples and fittings, filling feeler motions, and selvage motions. Published by Emmott & Co. Ltd., 31 King St. West, Manchester 3, England; price, 70 cents net.



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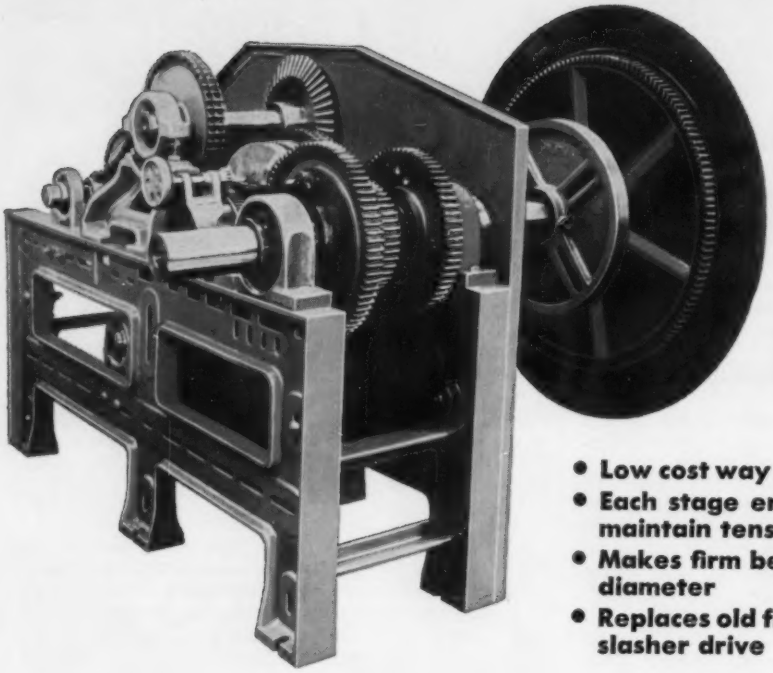

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- **Makes firm beams up to 32" in diameter**
- **Replaces old friction without changing slasher drive**

Today's increased operating speeds and large loom beams often render the conventional slasher frictions inadequate. The West Point three-stage friction was designed to solve this problem without the high cost of replacing existing drives such as cone pulleys and variable speed transmissions.

The three-stage friction makes a good, firm beam by automatically engaging additional friction discs as the loom fills up. It is a neat-appearing, smooth-operating mechanism made of rugged precision parts. The entire mechanism is mounted in ball bearings. A 3" diameter arbor provides a rigid support for heavy beams.

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As the name implies, this West Point drive is three frictions in one, each geared to the beam arbor at a different ratio. As the beam turns, the second and third stages engage automatically at predetermined beam diameters to maintain tension *and* to reduce the heating and power loss that is inherent in the conventional friction.

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7-1 SEAMLEX METAL HOSE. New illustrated bulletin No. 955 gives essential information on Seamlex Bronze Hose and diesel exhaust hose. Write Seamlex Co., Inc., 41-23 24th St., Long Island City, N. Y.

7-2 CRANE & MONORAIL ELECTRICAL EQUIPMENT. Industrial Crane & Hoist Corp. 12-page catalog describes electrical equipment for cranes and monorail systems, including copper wire, bar, T-bar and enclosed conductor. Write Industrial Crane & Hoist Corp., 1536 South Paulina St., Chicago 8, Ill.

7-3 GENERAL TEFLON INFORMATION. Illustrated catalog on C-D-F Teflon Products—tapes, sheets, rods, tubes, gaskets and fabricated specialties. Write for Catalog T-55, Continental-Diamond Fibre Div., The Budd Co., Inc., Newark, Delaware.

7-4 SELF-LUBRICATING BRONZE BEARINGS. Oilite's new "Stock List S-56" includes the dimensions of these bearings and a substantial selection of cored, bar and plate stock plus six pages of valuable engineering data. Write Amplex Div., Chrysler Corp., P. O. Box 2718, Detroit 31, Michigan.

7-5 STEAM PUMPS. Illustrated 23-page bulletin entitled "How to Install and Take Care of Steam Pumps" is a step-by-step series which presents the reader with information on increased service life of all types of steam pumps. Write for Bulletin No. G-2280P, Worthington Corp., Adv. & Sales Prom. Dept., Harrison, N. J.

7-6 UNIT HEATER. The latest improvements, specifications, and complete performance data for Herman Nelson horizontal and vertical unit heaters have been written into a new 36-page product bulletin by the American Air Filter Co., Inc., 215 Central Ave., Louisville, Ky.

7-7 CUT WATER TREATMENT COSTS. Folder presents Oakite Airefiner No. 52, a mildly alkaline compound, that is said to control scale, slime, algae and corrosion. Write Oakite Products, Inc., 126C Rector St., New York 6, N. Y.

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7-9 MULTI-STAGE WASHER. Bulletin No. T-111 by Wiesner-Rapp illustrates and describes the versatility, accessibility, efficiency and compactness of the Multi-Stage Washer. Write The Wiesner-Rapp Co., Inc., 1600 Seneca St., Buffalo 10, N. Y.

7-10 CYLINDERS AND BOOSTERS. Book by Miller Fluid Power Co. contains complete listing of air and hydraulic cylinders and boosters "in stock," price lists, and graphic explanation of their equipment. Write Miller Fluid Power Co., 2040 N. Hawthorne, Melrose Park, Illinois.

7-11 STORAGE WATER HEATING. Isotherm Storage Water Heating Bulletin #923 on hot water heating to stretch boiler capacity. Write Fred H. Schaub Engineering Co., 2110 South Marshall Blvd., Chicago 23, Illinois.

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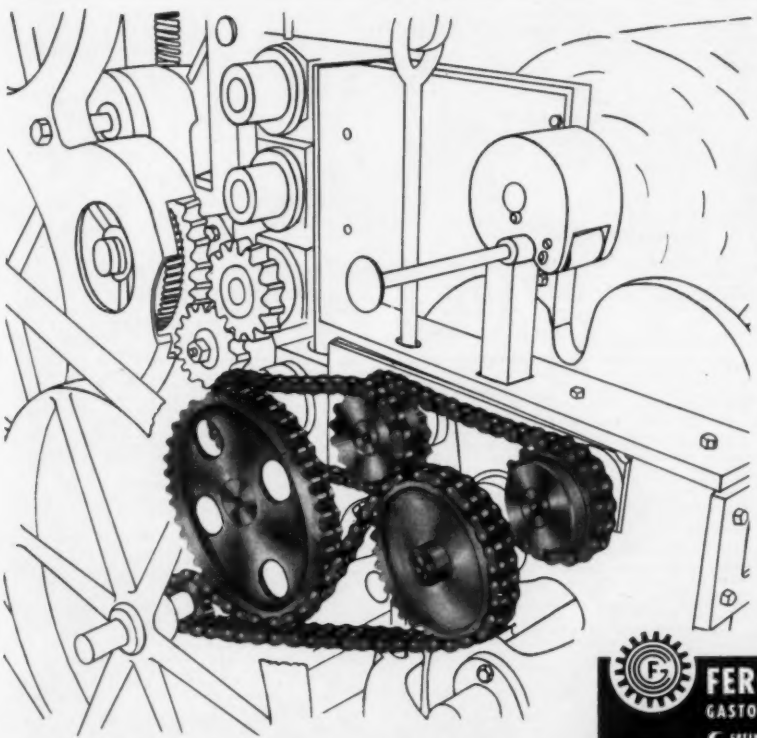

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123. ROLLER BEARINGS FOR TEXTILES — Easy to read non-technical bulletin describes where and how Hyatt Roller Bearings are employed for more profitable textile production. — HYATT BEARINGS DIV., GENERAL MOTORS CORP., Harrison, N. J.

125. STATIC ELIMINATION — Bulletin by Simco describes effective, simple, safe and inexpensive means of eliminating static. — SIMCO COMPANY, 980 Walnut St., Lansdale, Pa.

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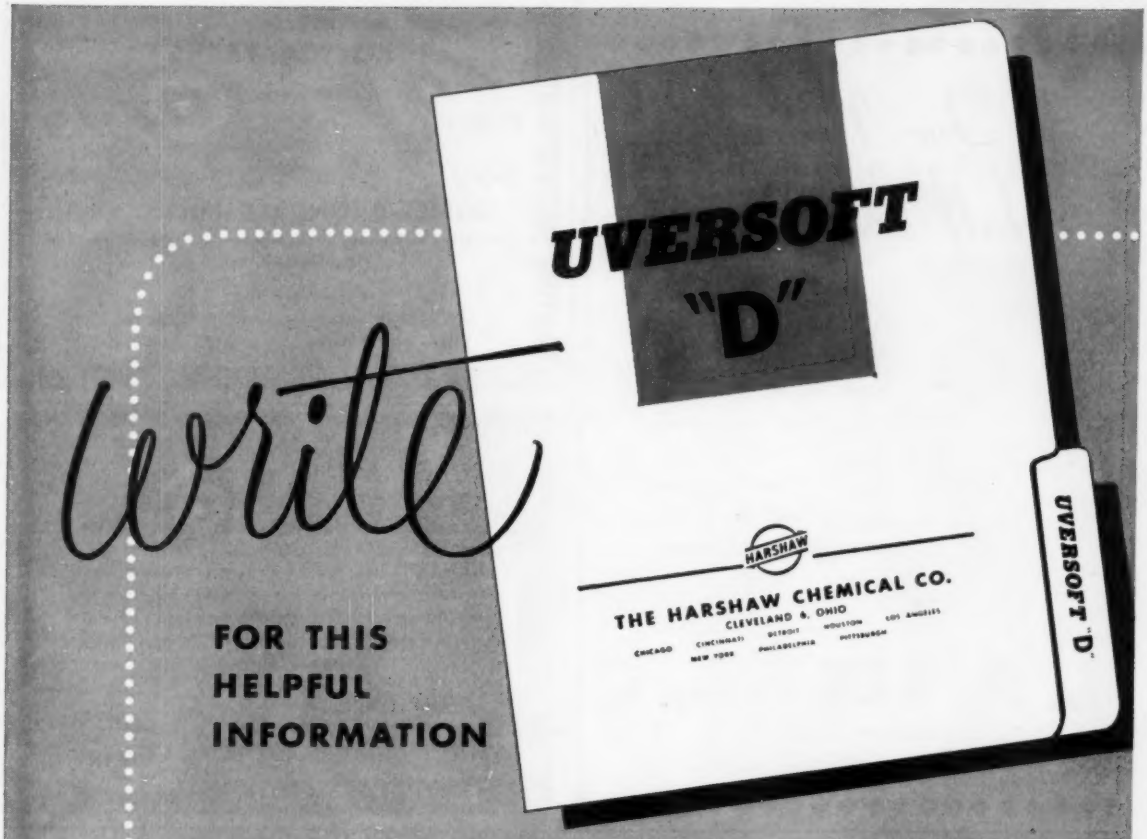

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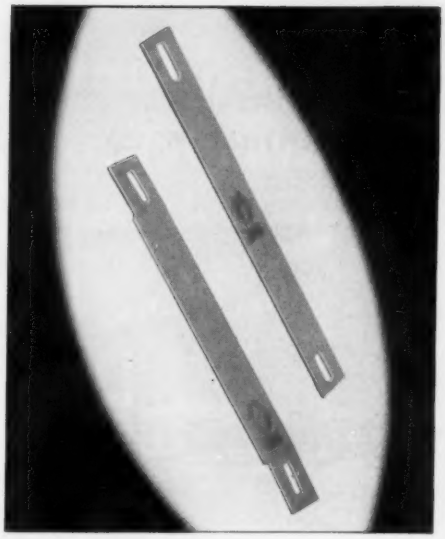

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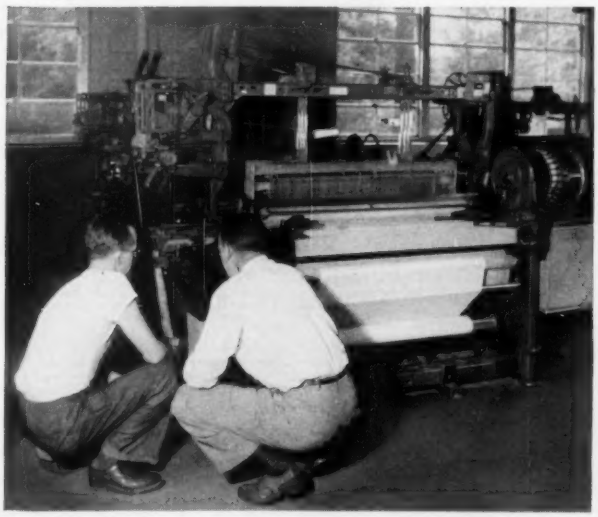

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234. SPINDLE OIL — Color brochure describes "Gulfspin," showing how it insures against excessive wear in cast iron bolsters and provides freedom from spindle wobble. — GULF OIL CORPORATION, Gulf Bldg., Pittsburgh, Pa.

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237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

238. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 2100 W. Eleventh St., Wilmington 99, Del.

240. CATALOG OF NEEDLE BEARINGS — New catalog conveniently presents design, application and use data for five types of needle bearings. Actually an engineering short course on bearings with visual index units. — THE TORRINGTON CO., Torrington, Connecticut.

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266. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, DIVISION OF GENERAL MOTORS CORP., Bristol, Conn.

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305. AUTOMATIC MOISTURE CONTROL—Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics.—HUNTER CONTROLS, INC. DIV., JAMES HUNTER MACHINE CO., North Adams, Mass.

310. HOW TO SELECT LIQUID METERS — Helpful free bulletin covers meters for brines, soap solutions, hot and cold water and other chemical solutions that can be handled by composition bronze meters. Write for bulletin 566UTL. — NEPTUNE METER CO., 10 W. 50th St., New York 20, N. Y.

313. "THE FAIRBANKS VALVE COMPARISON CHART" — New reference manual important in specification, ordering, and using of bronze and iron-body valves. — THE FAIRBANKS COMPANY, 393 Lafayette Street, New York 3, N. Y.

315. MICRO SWITCH BULLETIN — Complete selection of bulletins featuring Micro Switch products is now available. Includes prices, characteristics, applications, etc. — MICRO SWITCH DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., Freeport, Ill.

316. MOISTURE CONTROLLER AND INDICATORS — Literature available from Strandberg Engineering covers indicators for slashers, tenters, etc.; for direct connection to pickers, and automatic controllers for connection to same — STRANDBERG ENGINEERING LABORATORIES, 416 W. Market St., Greensboro, N. C.

321. RED-RAY BURNERS — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame. — RED-RAY MFG. CO., 445 W. 45th St., New York, N. Y.

324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

337. COUNTING DEVICES — Catalog of Trumeter's complete line of counters for every application where counting, measuring or registering is required. Colored pictures illustrate each application. —TRUMETER COMPANY, 1265 Broadway, New York 1, N. Y.

339. NEW LUBRICATED PLUG VALVES — Illustrated booklet by The William Powell Co. features a new line of sami-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

CARDING, SPINNING, WINDING . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding machines. Also for cleaning monitors and card room ceilings. — The AMERICAN MONORAIL CO., Cleveland, Ohio.

403. TRAVELING CLEANERS — 4-page bulletin describes the improved Parks-Cramer Frame and Room Cleaners including the Underframe and Floor Sweepers. — PARK-CRAMER CO., Fitchburg, Mass.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information will be supplied on lapless endless spinner and coning belting. — TON-TEX CORPORATION, 31 Columbus Ave., Englewood, N. J.

408. CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

410. SPINNING FRAME CONVERSIONS — Information available on how to get new-frame results and big-package economy at half the cost with Meadows Conversions. — MEADOWS MFG. CO., P. O. Station A, Atlanta, Ga.

411. SHEET METAL WORK — Pamphlet describes spinning cylinders, aspirators, card screens, sheet metal specialties. — GASTONIA TEXTILE SHEET METAL WORKS, INC., 222 East Long Avenue, Gastonia, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

413. HIGH SPEED, AUTOMATIC QUILLER — Color booklet by Schlafhorst describes the "Autocoper" Automatic Quiller. Gives advantages, space requirements, etc. — TERRELL MACHINE CO., INC., Charlotte, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

416. THE BRIEF SAGA OF THE RING TRAVELER — An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's Bolster type spindle are covered. —NATIONAL RING TRAVELER CO., Pawtucket, R. I.

417. FEATHERTOUCH DRAFTING — Booklet describes in detail with pictures the most uniform drawing, the strongest drawing with the highest production per frame at the lowest cost. — IDEAL INDUSTRIES, INC., Bessemer City, N. C.

419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all steps of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

422. WARPER BEAMS — Folder describes the high speed for rayon tire cord, cotton warper beams, cast aluminum end supports and large diameter heads. — U. S. BOBBIN SHUTTLE CO., Lawrence, Mass.

423 SPINDLE OILING MACHINE — Information available on new Spindle Oiling Machine. Features include filter system to clean oil for reuse; smaller size for narrow aisles. — WICACO MACHINE CORP., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

424. GREASE-SEALED, ANTI-FRICTION ROLLS — Booklet contains description and engineering drawings of the Cole grease-sealed, anti-friction rolls. Also contains information on dual apron controlled drafting units. — COLE ENGINEERING CORP., P. O. Box 153, Columbus, Ga.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

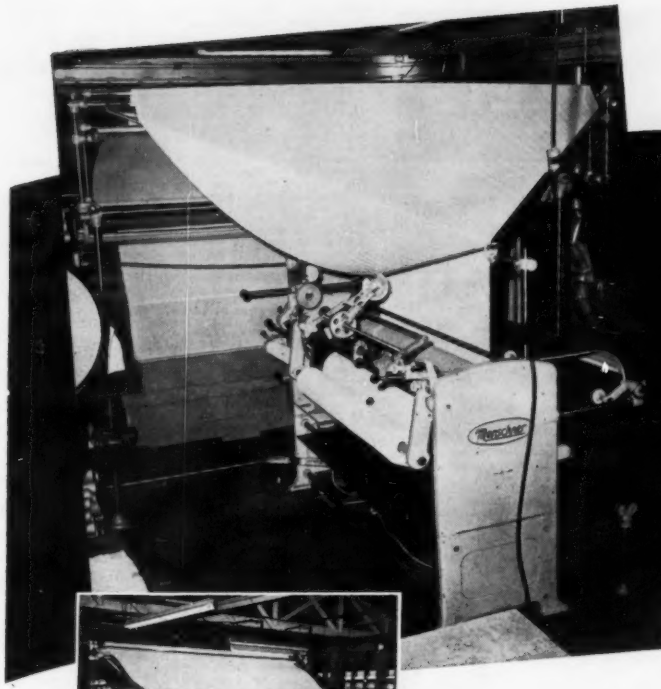
426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

429. BETTER FLYER AND SPINDLE EFFICIENCY — Entertaining booklet by Ideal Machine Shops gives facts about Flyers and Spindles which have helped many mills gain more efficient production, better yarn quality. — IDEAL MACHINE SHOPS, INC., Bessemer City, N. C.

431. TEXTILE VACUUM SYSTEM — Color bulletin by Spin Sa Vac describes application of their vacuum system to drawing, roving and spinning processes, and for the removal of broken ends, fly or sliver. Complete diagrams and shots of typical installations. — SPIN SA VAC CORPORATION, 1438 South Tryon St., Charlotte, N. C.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

433. PERMANENT PLATE MAGNETS — Bulletin shows how Eriez Magnetic Separators prevent fires and protect machinery from tramp iron in all types of textile mills. — ERIEZ MFG. CO., Erie, Pa.



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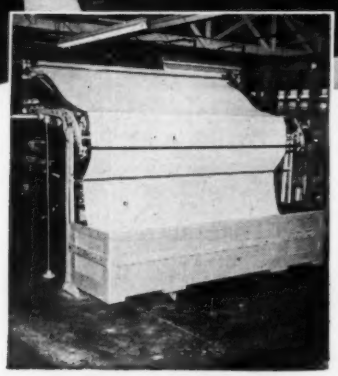

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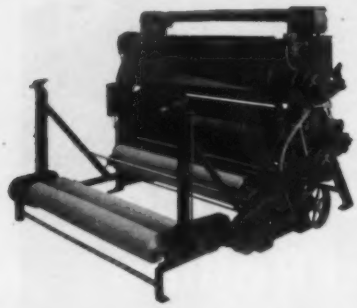

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434. SPINNING AND TWISTER RINGS — Catalog and price list now available on Whitinsville "Diamond Finish" spinning and twister rings. Complete details and pictures. — WHITINSVILLE SPINNING RING CO., Whitinsville, Mass.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up spool packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER — Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording. — SCOTT TESTERS, INC., Providence, R. I.

437. PRECISION GEAR BULLETINS — Now available from Precision Gear are bulletins on machinery products for cleaning and picking, roving frames, spinning and twisting and a general catalog on gears. — PRECISION GEAR AND MACHINE CO., 2001 N. Tryon St., Charlotte 2, N. C.

438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

439. PNEUMAFIL SUCTION CLEANING SYSTEMS — Booklet describes types of Pneumafil Systems, gives details of new Collector Unit model C-4. New type LFC Pneumafil is also discussed. Diagrams, comparison charts and installation pictures included. — PNEUMAFIL CORP., Charlotte 8, N. C.

440. CUSTOM MADE THREAD GUIDES — Color brochure describes complete line of American Lava Company's thread guides. Composition, properties, specifications of all designs included. — AMERICAN LAVA CORPORATION, Chattanooga 5, Tenn.

444. OPENING AND CLEANING MACHINERY—Color brochure by Dodenhoff describes their waste machine, enclosed feeder, conveyors and cleaner. Specifications included with pictures. — W. D. DODENHOFF CO., Box 178, Greenville, S. C.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

448. AUTOMATIC BLENDING SYSTEM—Dodenhoff system, called "Fiber Meter" is fully described in color booklet. Shows actual operating results, shows pictures and illustrates typical conversion of old fashioned systems. — W. D. DODENHOFF CO., 745 Loundes Hill Road, Greenville, S. C.

449. NEW CONDENSER TAPE — Literature by Benjamin Booth describes newly introduced SUPR-O-TAPE, an impregnated fabric condenser tape. Shows actual sample of tape and gives complete prices. — BENJAMIN BOOTH CO., Allegheny Ave., & Janney St., Philadelphia 34, Pa.

450. HIGH SPEED AUTOMATIC QUILLER — Color booklet describes the Schlafhorst "Autocopser." Listing its advantages and giving dimensions. — TERRELL MACHINE CO., INC., P. O. Box 928, Charlotte, N. C.

451. ROLLER BEARING SPINDLE — Color booklet gives principal features and main advantages of SMM Roller Bearing Spindle. Detailed drawings included. — H. PHIL WORTH, Box 1355, Greenville, S. C.

452. PNEUMAFIL LINT-FREE CREEL — Color booklet describes the new Airfoil Design Pneumafil type LFC with Built-in Lint-Free Creel. Gives complete details and pictures. — PNEUMAFIL CORPORATION, Charlotte 8, North Carolina.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. — USTER CORPORATION, Charlotte, N. C.

456. SRRL OPEER, SCREW CONVEYORS — Information available on Continental Gin Company's SRRL Opener. Also complete line of screw conveyors and accessories. — CONTINENTAL GIN CO., Birmingham, Ala.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers. — HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc fully described with specific application. — WALTER KIDDE & CO., INC., 190 Main St., Belleville 9, N. J.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

465. RAGAN SELF-LUBRICATING RINGS — Complete data available on new self-lubricating rings, outlining unique construction and absence of wicks. — RAGAN RING CO., 901 S. Main St., East Point, Ga.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

470. RATCHET DRIVE LUBRICATOR — Technical reference sheet describing an automatic ratchet-driven lubricator is offered. Describes in detail the key features, includes photographs. — BIJUR LUBRICATING CORP., 151 W. Passaic Avenue, Rochelle Park, N. J.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

472. TWISTING MACHINERY — Bulletin gives outstanding features, specifications facts and useful information on Novelty Yarn Twisters for Cotton, Silk, Worsted and Rayon Yarns. — COLLINS BROTHERS MACHINE COMPANY, 647 Roosevelt Ave., Pawtucket, Rhode Island.

473. ALUMINUM SECTION BEAMS — Information available on advantages of Hayes beams. Includes prices and delivery schedules. — HAYES INDUSTRIES, INC., Jackson, Mich.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown. — SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, roll covering for cotton, silk and synthetic and woolen and worsted systems. An excellent guide book. — ARMSTRONG CORK CO., INDUSTRIAL DIV., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

478. TIPS ON CARDING PROCEDURE—Monthly bulletin by Ashworth Brothers includes many useful tips and advice on carding operation, maintenance and care and is available to anyone interested. Billetin is a reprint of section appearing on green paper in this issue. — ASHWORTH BROTHERS, Fall River, Mass.

485. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

488. COTTON SIZING WASTE PROBLEM SOLUTION — Booklet describes the use of soluble, low-pollutional CMC in place of starch and how this can reduce costs. — HERCULES POWDER CO., Wilmington 99, Delaware.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES—Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery. — VEEDER-ROOT, INC., Hartford, Conn.

504. LOOM SUPPLIES — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and allied products. — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

505. INNOVATION IN TEXTILE DRYING — Booklet by J. O. Ross gives details on Steam or Gas "Hot Air" Slasher for high speeds at low cost. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

506. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

510. CONTROLLED SIZING — Brochure in color describes the legend, operation and specification of the new Griffin Size Machine. Features most important basic improvements in size machines in many years. — ILA L. GRIFFIN & SONS, P. O. Box 1576, Charlotte 1, N. C.

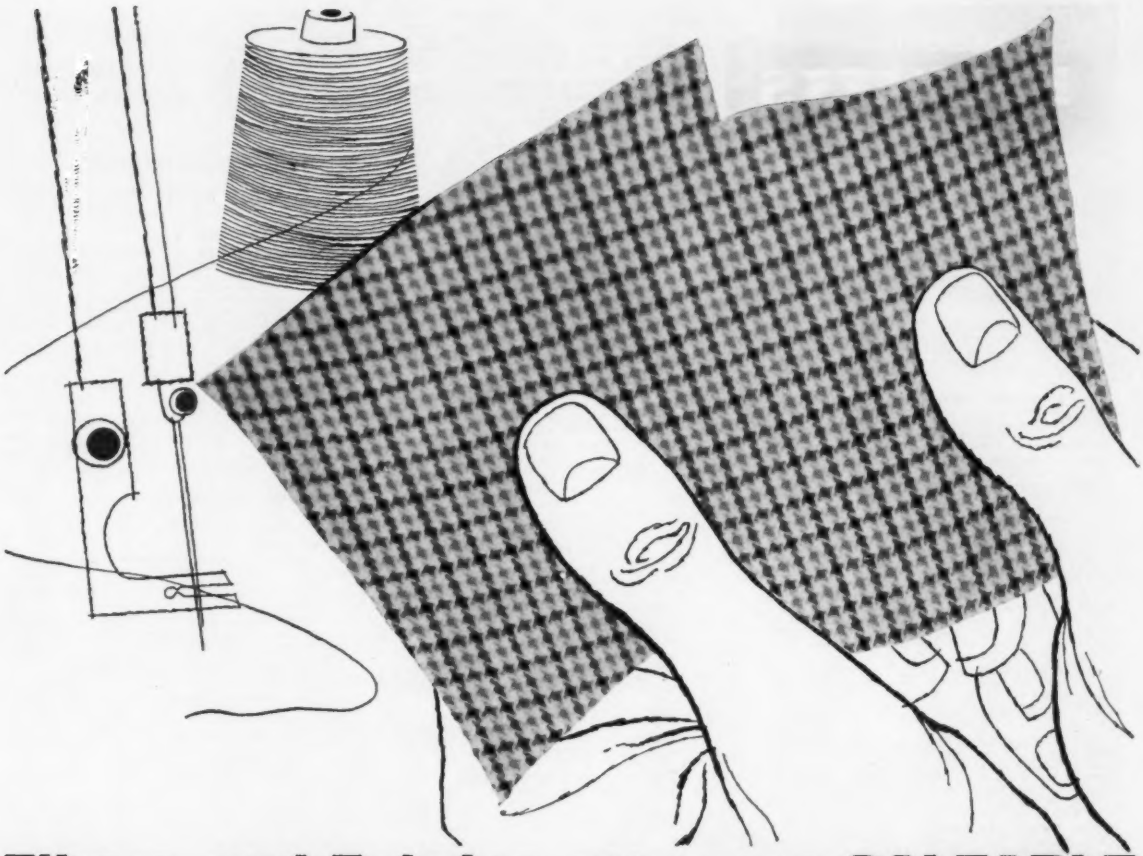
511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

514. THE STORY OF STARCHES — Semi-technical booklet tells the story of starches and information on how they are produced, the creation of new specialty starches, the unique "man-made" starch derivatives, and the handling of starches. — NATIONAL STARCH PRODUCTS, INC., 270 Madison Avenue, New York 16, New York.

515. WARPING, SLASHING, WEAVING ARNEL YARNS — 8-page booklet preliminary information on Arnel Triacetate Yarns. — CELANESE CORP. OF AMERICA, TEXTILE DIVISION, Box 1414, Charlotte, N. C.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

519. ALIGNING LAYS — Informative booklet gives setting instructions for aligning lays. Complete treatment, including step-by-step drawings.—DRAPER CORPORATION, Hopedale, Massachusetts.



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520. HELP ON SIZE PROBLEMS — Information from Southern Sizing Company outlines how their superior sizing compounds and superior service can help make your mill run better. — SOUTHERN SIZING CO., East Point, Ga.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

522. PENFORD GUMS IN TEXTILES — Brochure tells how the wide range of viscosities and the excellent properties of Penford Gums make them desirable for warp sizing spun yarns. — PENICK & FORD, LTD., INC., 420 Lexington Ave., New York 17, N. Y.

525. STAINLESS DRY CANS — Bulletin describes advantages of Unistel Stainless Dry Cans including details of construction. Profusely illustrated. — UNISTEL TEXTILE MACHINE CORP., 225 Westchester Avenue, Port Chester, N. Y.

526. SACO-LOWELL POSITROL SLASHER — Color Brochure gives 14 advantages of the Saco Lowell Positrol Slasher. Includes photographs, cut-away drawings, sectional pictures, diagrams. Microphotographs. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

541. BOOKLETS ON COCKER CUSTOM BUILT EQUIPMENT — Six new bulletins available from Cocker include information on the high speed Warp Sizer, high speed Beam Warper, Cocker Creels and Tensions, Beam Back-Winders, Indigo Dyeing Ranges, Kettles, T-Boxes, etc. — COCKER MACHINE & FOUNDRY CO., Gastonia, N. C.

545. NOPCO CHEMICAL DATA SHEETS — Now available are Nopcostats, Nopco Sizes N and D. Important points in Warp Sizing. Interpretation of Analysis. Wetting Agents. Balanced wool and worsted oils. Acetate warp sizing. Viscose warp sizing. Rayon soaking. — NOPCO CHEMICAL CO., Harrison, N. J.

DYEING, FINISHING CLOTH ROOM . . .

601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

603. EMCO ROTARY CUTTER WINDER — Bulletin gives applications, sizes and exclusive features.— H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

604. DYEING, BLEACHING AND DRYING EQUIPMENT — Excellent color brochure by Morton describes their complete line of dyeing, bleaching and drying equipment for cotton, wool and synthetics. — MORTON MACHINE WORKS, 1718 3rd Ave., Columbus, Ga.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

607. RIBBON CALENDERS — Brochure features Dickerhoff Ribbon Calenders for the purpose of calendering, embossing, etc., of narrow fabrics. — ENGINEERING WORKS, HERM. DICKERHOFF LTD., Wuppertal Barmen, Western Germany.

608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction. — C. G. SARGENT'S SONS CORPORATION, Graniteville, Massachusetts, U.S.A., for bulletin 195.

609. WET PROCESSING MACHINERY — Complete file of bulletins on Riggs and Lombard Wet Processing Machinery available. Write for catalog index sheet giving summary. — RIGGS AND LOMBARD, INC., Suffolk Street, Lowell, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes pre-boarding and automatic boarding machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

611. LOW COST DYEING — Bulletin by Blickman describes their fully enclosed, stainless steel Dyebox. Reports increased production per man hour and more runs per day at lower cost. Write for bulletin 7034.—S. BLICKMAN, INC., Gregory Ave., Weehawken, N. J.

612. JAMES HUNTER MACHINES FOR DYEING AND FINISHING — Comprehensive Catalog contains complete file of bulletins on all Hunter machines having application in dyeing and finishing. Excellent reference data for dyehouses. — JAMES HUNTER MACHINE CO., North Adams, Mass.

613. HERMAS TEXTILE MACHINES — Selection includes brochures on Unwind Stand,Automatic Guiding Unit, Jet Mixer, Selvage Trimming, Clothroom Machinery. — HERMAS MACHINE CO., Hawthorne, N. J.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

618. APPLICATION OF FUGITIVE DYES — Bulletin describes UNITINT operation, giving advantages of effectively controlling the application of fugitive dyes to various fibers. — W. D. DODENHOFF COMPANY, 745 Lowndes Hill Rd., Greenville, S. C.

619. PENFORD FINISHING GUMS — Booklet by Penick & Ford gives complete data, including physical properties and results which may be expected on Penford gums. — PENICK & FORD, Ltd., 420 Lexington Ave., New York 17, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

621. "DYEING SYNTHETIC FIBERS" — Brochure giving a comprehensive, detailed analysis of the methods and materials available for dyeing synthetic fibers. — GENERAL DYESTUFF CO., 435 Hudson St., New York 14, N. Y.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

628. TREATMENT OF SYNTHETIC TEXTILE FINISHES — High speed drying and curing of synthttic finishes by means of far-infrared radiation is covered in a new 22 page folder entitled "The Textile Report" by Edwin L. Wiegand Company, 7700 Thomas Blvd., Pittsburgh 8, Pa.

630. COMPLETE NAPTHOL MANUAL — Practical working handbook, 110 pages, on textile dyeing and printing applications of Naphtols. Write on company letterhead to PFISTER CHEMICAL WORKS, Box 326, Ridgefield, N. J.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods.—FOXBORO COMPANY, 487 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — E. H. JACOBS NORTHERN DIV., Danielson, Conn.

636. NAPPERS FOR TREATING ANY FABRICS — Bulletin gives complete details on the Muller Tri-Napping Machine with 24, 30, or 36 rollers. Dimensions and weights included. — FRANZ MULLER, M. Gladbach, Germany.

637. BALL BEARING TURN TABLE — Leaflet describing this 48 inch diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

642. SELVAGE OR BACK MARKING MACHINE —Complete specifications and performance data on a new fully automatic marking machine available from Kaumagraph. — KAUMAGRAPH CO., Wilmington 99, Delaware.

643. SURFACE-ACTIVE AGENT — Bulletin gives characteristic properties, suggested applications, etc. of the Nonionic Octylphenoxyethanol Triton Surface-Active Agents. — ROHM & HAAS CO., SPECIAL PRODUCTS DEPT., Philadelphia 5, Pa.

644. DYEING, BLEACHING, FINISHING BULLETINS — Saturator for roped goods, J-Box (for Becco process), J-Box (for duPont Process), Continuous Bleaching Ranges, Carrier Reels, Drum-Type Plaiter are available from WIESNER-RAPP CO., INC., 1600 Seneca Street, Buffalo 10, New York.

645. HYCAR LATICES IN TEXTILES. New 16-page service bulletin features a chart showing the physical properties of the Hycar latices and typical fields of application for each. Write — ADVERTISING DEPARTMENT, B. F. GOODRICH CHEMICAL CO., 324 Rose Bldg., Cleveland 15, Ohio.

647. CURING OVEN. Bulletin gives details of modern, highly efficient, gas-fired curing oven for handling resin-treated fabrics. Shows outstanding features and enumerates advantages. Write — JAMES HUNTER MACHINE CO., North Adams, Mass.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO., Fifteen Fifth St., Taunton, Mass.

656. GET RID OF WRINKLES — Brochure shows how Mount Hope "free wheeling" expanders keep fabrics smooth, at full width, without distortion wherever goods are rolled, nipped, dyed, washed, dried or batched. — MOUNT HOPE MACHINERY CO., Taunton, Mass.

657. PROCESSING ARNEL FABRICS AND BLENDS — Bulletin provides information on dyeing, printing, finishing and heat treating Arnel. Text, charts and diagrams included. Write for No. TD-15. CELANESE CORP. OF AMERICA, Textile Division, Marketing Dept., Charlotte, N. C.

659. SONOCO TUBES FOR PACKAGE DYEING — Color bulletin describes Sonoco's DYTEX tubes for one-time use in standard package dyeing equipment to achieve uniformity. — SONOCO PRODUCTS CO., Hartsville, S. C.

DYESTUFFS, CHEMICALS, SOAPS . . .

701. MAGNESIUM APPLICATIONS — Case history information on magnesium application in the textile field, published bi-monthly with latest developments in the magnesium industry. — DOW CHEMICAL CO., Midland, Mich.

704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES — 24-page booklet entitled "If You Use Water" discusses the fundamentals of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization. — ROHM & HAAS COMPANY, RESINOUS PRODUCTS DIV., Washington Square, Philadelphia 5, Pa.

705. THEORETICAL AND APPLIED SILK-SOAKING — Attractive twenty-three page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk. — HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

707. BRINE FOR TEXTILE INDUSTRY — 32-page booklet on the Lixate Process replaces former booklet on making brine that has been a standard reference for years. Contains much more technical information. — INTERNATIONAL SALT CO., INC., Cranton, Pa.

710. DEPUMA — An odorless, viscous, non-evaporating emulsion which is highly efficient as an anti-foam, useful in all phases of dyeing and printing. — AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

712. CATALYST AC-6 — Booklet describes how Catalyst AC-6 steps up curing efficiency as much as 25%. Free eight-ounce bottle upon request. — MONSANTO CHEMICAL COMPANY, PLASTIC DIVISION, DEPT. TI-3, Springfield 2, Mass.

714. NEW SODA ASH BULLETIN — 64-page edition contains both new material and revisions of previously used data covering the subject. — SOLVAY SALES DIV., 40 Rector St., New York 6, N. Y.

715. AQUAROL AND ARKANSAS PRODUCTS — Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing. — ARKANSAS CO., INC., Newark, N. J.

719. WOOL OIL — Descriptive booklet on antistatic fiber lubricant, Twitehell 7421. Performance factors given particular emphasis are static control, scourability, lubricity and resistance to yellowing. — EMERY INDUSTRIES, INC., DEPT. 5, Carew Tower, Cincinnati 2, Ohio.

720. INDUSTRIAL OIL — Bulletin catalogs all of Swift's Industrial Oil and Fatty Acid products. Included are detailed specifications, shipping information and suggested usage on products of animal, vegetable and marine sources. — SWIFT & COMPANY, INDUSTRIAL OIL DEPARTMENT, 1800 165th Street, Hammond, Indiana.

722. RESINS & LATICES — Booklet describes chemigum, latex, pliolite latex, plivoia latex, pliovic AO and their applications. Gives properties of Goodyear Latices. — GOODYEAR CHEMICAL DIV., 1144 East Market St., Akron 16, Ohio.

723. CHEMICAL CATALOG — Features detergents, wetting agents, emulsifiers, brighteners, sequestrants, dyeing assistants with chemical composition, properties and application.—ANTARA CHEMICALS DIV., GENERAL ANILINE & FILM CORP., 435 Hudson St., New York 14, N. Y.

724. WICA CHEMICAL BULLETINS— Bulletins describe in technical terms the various Wica Products for textiles. Issued each month for the benefit of industry, they are an excellent help in wet processing. To get on the mailing list write WICA CHEMICALS, INC., P. O. Box 506, Charlotte, N. C.

726. CELANESE ORGANIC CHEMICALS—Booklet gives complete technical details on Celanese organic chemicals including uses and descriptive data. Useful addenda to files.—CELANESE CORPORATION, CHEMICAL DIVISION, 180 Madison Ave., New York 16, N. Y.

727. COLOR PRINCIPLES — Booklet available from Sandoz Chemical describes the fundamental principles of color and its measurement. Booklet has been adopted by several of the leading textile schools. — SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y.

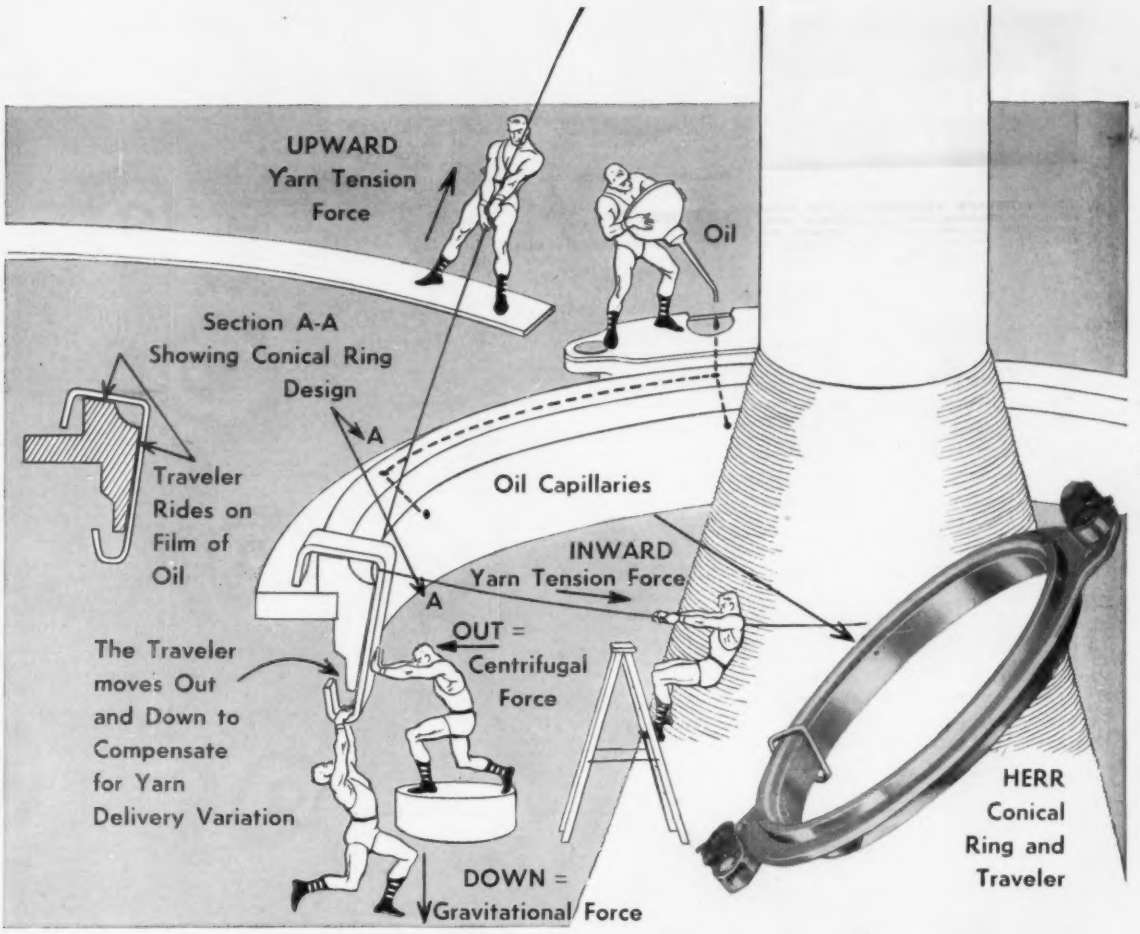
729. STATIC AND STATIC CONTROL — Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

733. WOOL OILS — Twin booklets by Proctor and Gamble tell of the influence of wool oils in producing quality yarns and fabrics, and of Proctor and Gamble's Proxol T, an outstanding wool oil. PROCTOR AND GAMBLE DIST. CO., Cincinnati, Ohio.

734. BLEACHING WITH PEROXYGEN CHEMICALS — Bleaching methods for cotton, rayon, nylon and animal fibers are comprehensively treated in Becco Research and Development Dept., Bulletin No. 52, now available. — BUFFALO ELECTROCHEMICAL CO., INC., Station B, Buffalo 7, New York.

735. NAPTHOL RATIOS SLIDE CHART—Slide guide available which quickly and accurately enables dyer or printer to determine Napthol Ratios. Free to persons writing on company letterhead. — ALLIANCE COLOR AND CHEMICAL CO., 33 Avenue P, Newark 5, N. J.

737. MORTON "PCB" ROCK SALT — Free booklet tells how "PCB" Rock Salt saves money on sequestering agent, eliminates streaks and off-shading, and increases color intensity. — MORTON SALT CO., Industrial Division, Dept. T.I.-3. 120 So. LaSalle St., Chicago 3, Ill.



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739. HYDROGEN PEROXIDE — New booklet covering the properties, uses and handling of hydrogen peroxide is now available. Illustrated with tables and diagrams, the text covers chemical reactions, handling and storage. — ADV. AND SALES PROM. DEPT., Solvay Process Div., Allied Chemical & Dye Corp., 61 Broadway, New York 6, N. Y.

745. RAPIDASE FOR DESIZING — Bulletin explaining in detail the properties and characteristics of Rapidase. — WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

746. INDUSTRIAL CHEMICALS — 24-page booklet listing alphabetically Harshaw industrial chemicals and applications. — THE HARSHAW CHEMICAL COMPANY, 1945 East 97th Street, Cleveland, Ohio.

747. CATIONIC SURFACE ACTIVE AGENT — Technical bulletin describes Harshaw's UVERSOFT "D" which produces full, soft hand while acting as an outstanding anti-static agent. — HARSHAW CHEMICAL CO., 1945 East 97th St., Cleveland 6, Ohio.

748. CHEMICALS, DYES AND INTERMEDIATES — Complete file of bulletins available on Metro-Atlantic products. Covers wide range. Write for product resume showing bulletins offered to METRO-ATLANTIC, INC., Centredale 11, R. I.

753. TRITON X-100 — Booklet available describing this highly concentrated detergent and wetting agent. Main uses fully discussed and chemical properties brought out. — ROHM & HAAS COMPANY, Philadelphia 5, Pa.

757. THE CHEMISTRY OF CYNANURIC CHLORIDE — Very comprehensive technical text by American Cyanamid Co. Gives physical properties, reaction chart, chemical properties, potential applications, toxicity, table of alcohol reactions, table of amine and related compound reactions. — AMERICAN CYANAMID CO., 30 Rockefeller Plaza, New York 20, New York.

766. DU PONT PEROXIDE BLEACHING SYSTEMS — New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included. — E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

769. SURFACE TENSION DEPRESSANT — The Booklet, "Mercerizing and Alkamerce — The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing. — HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

774. ROYCE TEXTILE CHEMICALS — This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing. — ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

775. ETHANOLAMINES — Book describes monoethanolamine, diethanolamine, and triethanolamine, listing their applications, chemical and physical properties, physiological properties, etc. — NITROGEN DIVISION, ALLIED CHEMICAL AND DYE CORPORATION, 40 Rector St., New York 6, N. Y.

KNITTING . . .

809. SYNTHANE TEXTILE PARTS — Folder on laminated bobbins, pirns, headless package tubes, hosiery turning and examining forms, sizing bobbins, etc. — SYNTHANE CORP., 9 River Road, Oaks, Pa.

801. THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE — Literature on request from the WILDMAN MFG., CO., FULL FASHIONED DIVISION, Norristown, Pa.

833. TIPS ON SEAMING NYLON STRETCH HOSIERY — Pamphlet lists in detail observations and suggestions on seaming nylon stretch hosiery prepared by Union Special as a result of findings of engineers in the field. — UNION SPECIAL MACHINE CO., 407 N. Franklin St., Chicago 10, Ill.

804. BOOKLETS ON FIDELITY MACHINES — Following booklets available: Fidelity "400", Fidelity Multi-Design Ribber, Fidelity Skein Reelers. — FIDELITY MACHINE CO., 3908-18 Frankford Ave., Philadelphia 24, Pa.

806. REINER WARPER — Full width and sectional warpers for all requirements in the knitting and weaving industry fully described in recent catalog. — ROBERT REINER, INC., Weehawken, N. J.

818. FORGED HEAD ALUMINUM BEAMS — Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams. — MILTON MACHINE WORKS, INC., Milton, Pa.

828. THE KIDDE KNITTER — Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it. — KIDDE MANUFACTURING CO., INC., Farrand St., Bloomfield, N. J.

SEWING MACHINES . . .

924. BUTT-TACKING SEWING MACHINE — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

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MATERIALS HANDLING . . .

1003. CASTERS AND WHEELS — 192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this. — DARNELL CORP., LTD., Long Beach 4, Calif.

1006. LANE CANVAS BASKETS — 16-page illustrated booklet describing the Lane line of canvas baskets for textile use. — W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. OVERHEAD HANDLING EQUIPMENT — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. CASTERS AND WHEELS — An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters. — THE COLSON CORP., Elyria, Ohio.

1009. HOW TO TEST CORRUGATED BOXES — 24-page booklet offers a comprehensive check-list by which to judge the protective qualities and durability of specific corrugated boxes. — HINDE AND DAUCH, Sandusky, Ohio.

1010. CONVEYOR KEY BOOK — A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

1015. OVERHEAD MATERIALS HANDLING — Three booklets available from Louden Machinery Co. treat economical material handling, twin fan ceiling cleaners, and shock proof electrification. — LOUDEN MACHINERY CO., Fairfield, Iowa.

1018. BALL BEARING TROLLEYS — 20 page catalog by Link Belt describes entirely new line of ball bearing trolleys for overhead conveyors. Contains pictures, specifications charts and diagrams. — LINK-BELT CO., 307 North Michigan Ave., Chicago 1, Illinois.

1019. HOW TO SELECT A LIFT TRUCK — An equipment analysis guide and rating table has been introduced by Hyster for comparison and selection of fork lift trucks. Gives an excellent means for price comparison between trucks of a similar nature. — HYSTER CO., 2902 N. E. Clackamas St., Portland 8, Oregon.

1021. CORRUGATED CONTAINERS — Brochure by Gaylord describes Multi-Unit and Bulk Containers which have been adapted for the textile field. — GAYLORD CONTAINER CORP., 111 N. 4th St., St. Louis 2, Mo.

1022. INDUSTRIAL TRACK EQUIPMENT — Color booklet describes SAFE-RAIL track developed as a supplement to the ZIG-ZAG power conveyor. Complete engineering data included. — RICHARDS-WILCOX MFG. CO., Aurora, Ill.

1039. CDF RECEPTACLES — This 32-page catalog, R-11, profusely illustrated in color, shows Continental-Diamond's line of boxes, trucks, cans, barrels, baskets and trays. Complete description and specifications are given on each item. — CONTINENTAL-DIAMOND FIBRE CO., Newark 11, Del.

1033. STRESSES ON OVERHEAD TRACKS — Booklet describes in detail stresses developed in various type tracks used for overhead materials handling systems. Track peening also covered. — CLEVELAND TRAMRAIL DIV., Wickliffe, Ohio.

MISCELLANEOUS . . .

1102. BALING PRESSES — An illustrated folder describing this manufacturer's complete line of balers for all materials. Both downstroke and upstroke models. — ECONOMY BALER CO., Ann Arbor, Mich.

1103. UNBRAKO SCREWS — Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, with knurled point, self-locking features. Includes miscellaneous screw and locking nut data. — STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1105. SHADOGRAPH WEIGHING DEVICES — Bulletins describe scales for weighing, dyestuffs, cotton samples, wool yarn, cones of yarn. Pictures and complete information on each type of scale included. — EXACT WEIGHT SCALE CO., Columbus 8, Ohio.

1111. BRUSHES — A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry. — GASTONIA BRUSH COMPANY, Gastonia, N. C.

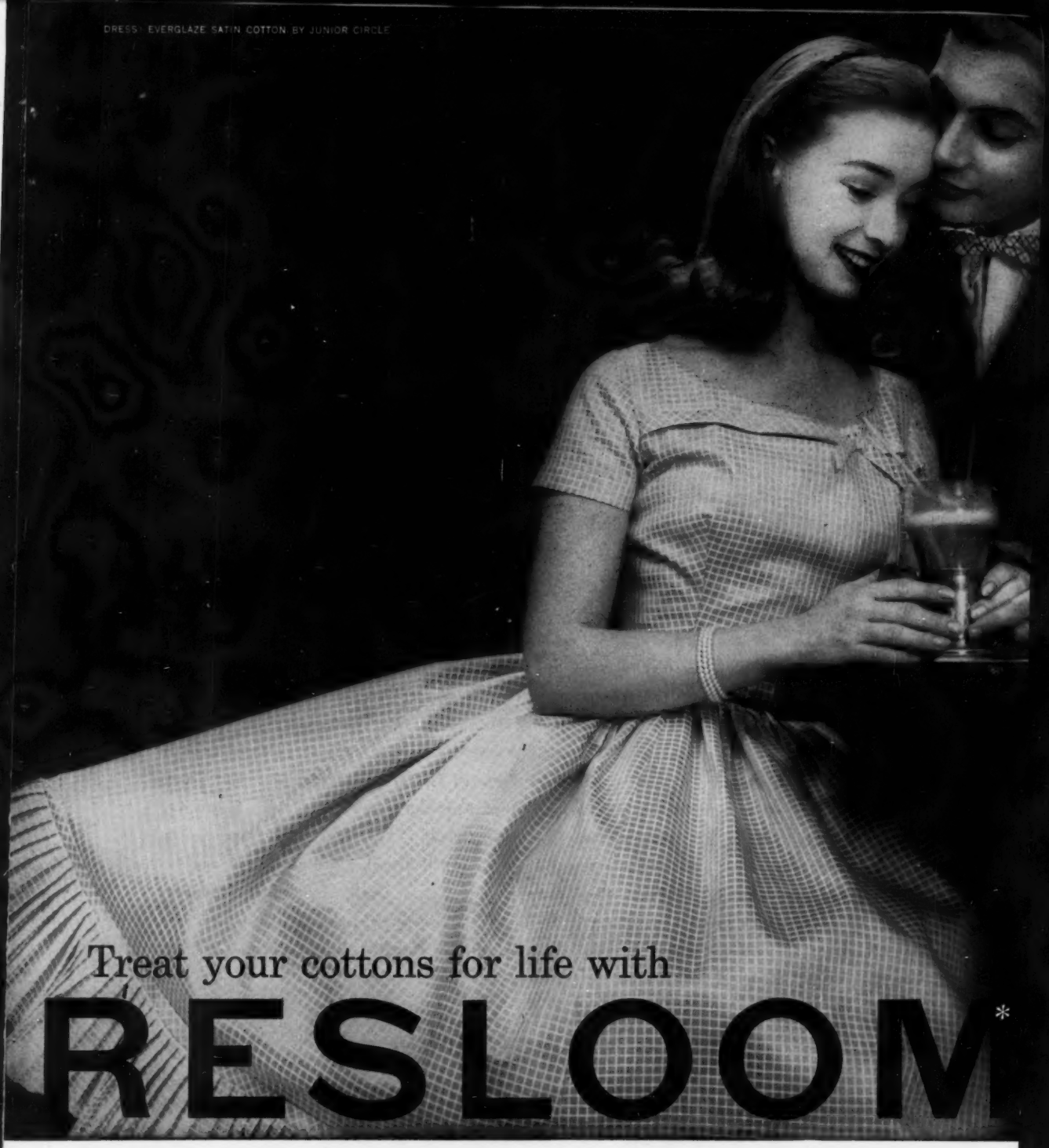
1112. THE RANDOM WEB PROCESS — Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams. —CURLATOR CORPORATION, TEXTILE DIVISION, 501 W. Commercial St., East Rochester, N. Y.

1113. MACHINE KNIVES — Catalog and price sheets describing this company's line of knives for use on textile machinery. — TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1115. TEXTILE WRAPPING MACHINES — Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V-Type Underfold, most protective package made. — HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1116. LITTLE PACKAGING LIBRARY — Series of booklets by Hinde & Dauch provides complete information of shipping in corrugated boxes. A must in every shipping department. — HINDE & DAUCH, Sandusky, Ohio.

1122. BALING PRESSES — Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished-goods, textile fibers, wool, and waste of all kinds. — LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wisconsin.



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All of Monsanto's Resloom textile resins have this in common: They impart a finish that does not wash out. Treated cottons keep their dimensional stability and wrinkle recovery for life.

The reason is simple. Resloom resins do more than coat the surface. They are deposited inside absorbent fibers where they actually modify fiber characteristics.

Get impartial counsel. A Monsanto representative will be glad to work with you on your cotton finishing problems. Write Monsanto Chemical Company, Plastics Division, Room 1036, Springfield 2, Massachusetts.

1805 AUCTION 1956

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The Worsted Yarn Division

of

James Lees and Sons Company

Fourth St., Bridgeport, Montgomery Co., Pa.

THURSDAY, JULY 19, 1956, AT 11 A.M.

daylight time on the premises

17 Warner & Swasey Dual and Quad Pin Drafters, Models M2350 and M2380; Holdsworth Dual Intersecting Pin Drafter; Warner & Swasey Pacific Converter, Model M2800; Turbo Orlon Staple Machine, 1955; Turbo Nylon Pre-boarding Machine, 1955; 24 Prince Smith & Stells, Ltd. 200-Spindle Worsted Spinning Frames, 1952; 5 Whitin 24-Spindle Cone Gill Drawing Frames, Model G12W; 13 Prince Smith & Stells, Ltd. 80-Spindle Roving Frames, 9 x 4½, 1952; 3 Prince Smith & Stells, Ltd. 120-Spindle Twister Frames, 1952 and 1953; 6 Prince Smith & Stells, Ltd. 200-Spindle Worsted Twisters, 1952; 2 Foster 60-Spindle Cone Winders, Models 12 and 101; 2 Smith & Furbush Two Iron Cylinder Worsted Cards 54" x 54"; 2 Proctor & Schwartz 60" Motor Driven Automatic Feeds; 2 James Smith 43" Noble Worsted Combs; 13 Lindsey-Hyde 15' Motor Driven Yarn Reels; 7 Prince Smith, Saco-Lowell Gill Boxes; 3 Balling Machines; 3 Prince Smith Drawing Frames, 4-, 6- and 12-Spindle; 6 Saco-Lowell 36-Spindle Roving Frames; 4 Saco-Lowell 32-Spindle Redoubler Frames; Boyd, Saco-Lowell and Prince Smith Ring and Twister Frames, 24-, 36-, 120- and 200-Spindle; 18 Bahnson Motor Driven Humidifying and Heating Units; Large Quantity Roving Cans, Assorted Sizes; Electric Motors, Etc.

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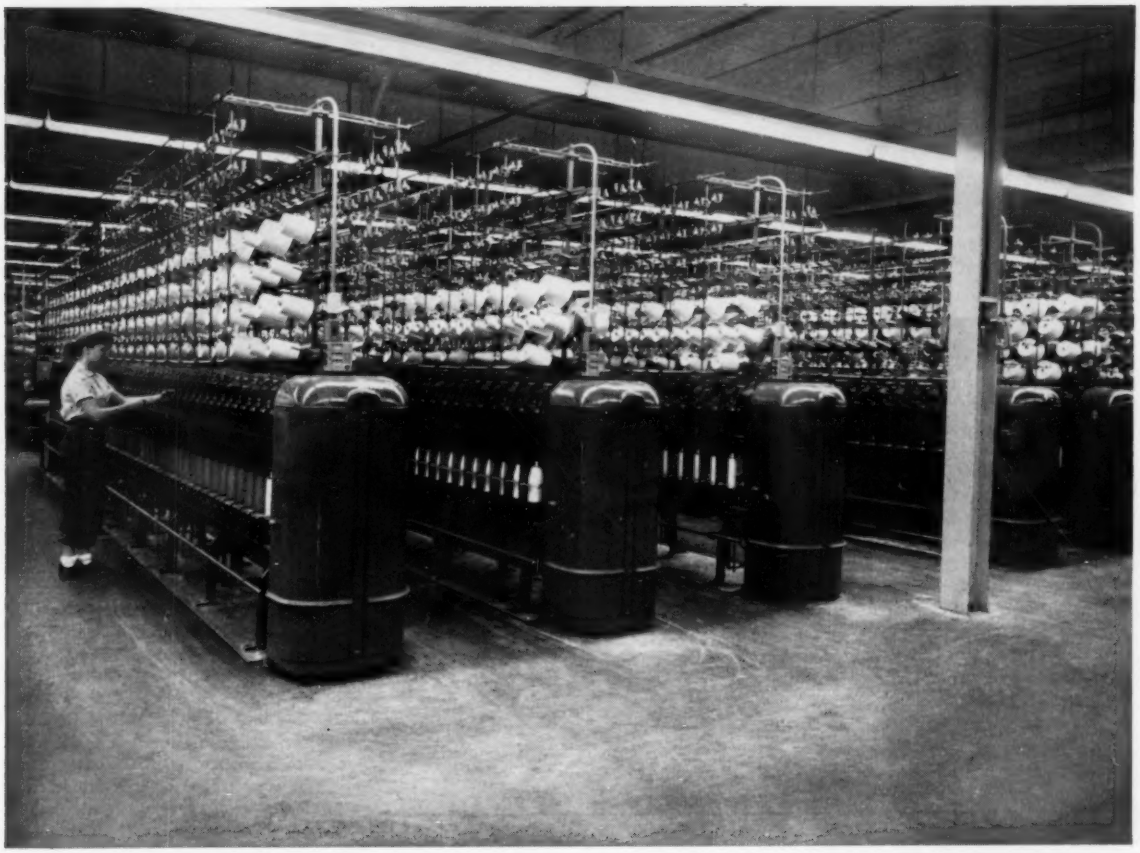

Leesona Model 10 Ring Twisters at the Chatham Manufacturing Company mill in Elkin, N. C. Part of a Leesona 2600-spindle installation used in producing the famous Chatham automotive and apparel fabrics.

Why CHATHAM selected Leesona® Ring Twisters

Mill executive tells how Model 10 machines help maintain quality and cut production costs

Carlyle Summey, Worsted Division Manager at Chatham, says:

"Our fabrics require many combinations of yarns — natural, synthetic and metallic, in ply constructions of from 2 to 6 ends. Leesona Model 10 Ring Twisters do a great job of top-quality twisting for us. Their single and ply end individual stop motions and individual tensioning of each end in the creel make the perfect combination for high efficiency twisting. We get big, well formed take-up packages from our Model 10's — and we get them fast, which saves us time and money in our subsequent coning, quilling and warping operations.

Investigate Leesona Machines

Get *all* the facts. Find out how Model 10 Ring Twisters, or other Leesona Machines, can cut your operating costs and improve your product quality. See your Universal representative or write direct.

23.5.2

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Winding and Twisting Machinery for Natural and Synthetic Yarns

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 54)

N. C., **Milton Southerland** is plant manager; **Gordon Walker,** plant superintendent; **Lester N. Hurley,** superintendent of finishing; and **J. A. Brady,** office manager.

Neisler Mills division of Massachusetts Mohair Plush Co., Kings Mountain, N. C., has announced a number of personnel additions and changes. **Archie T. Wilbanks** is now in charge of production control, planning, and quality; **W. K. Lee** is new division mechanical engineer; **Fred Cauble** has been named assistant to Clarence Jolly in yarn manufacturing; **W. J. Fulkerson** has been promoted to general superintendent of manufacturing; and **Joe O'Shields** is newly named personnel manager.

Lebanon (Tenn.) Woolen Mills announce three promotions as follows: **Graydon Robinson** to vice-president; **Leonard Ballard** to secretary of the mill, and **Charles H. Baird** to general manager.

Newly elected officers of Virginia Woolen Co., Winchester, Va., which is now a subsidiary of United Merchants & Manufacturers are: president, **Harold Ackerman,** who is also president of A. D. Juilliard & Co., Inc., another UM&M subsidiary; and vice-presidents **F. I. Largent, Jr., William H. Mellor, Jr.,** and **Al Bleiman.** Messrs. Largent and Mellor had previously served as vice-presidents of Virginia Woolen and Mr. Bleiman is also a Juilliard vice-president.

Obituaries

William J. Armfield, 49, president of Madison (N. C.) Throwing Co.

John M. Berry, 83, president of Rome (Ga.) Hosiery Mills.

Claiborne M. Carr, 71, retired vice-president of American Enka Corp., Enka, N. C.

William F. Carr, 75, secretary of Durham (N. C.) Hosiery Mills.

Olen K. Catlett, 37, assistant overseer of the dyeing department, Riegel Textile Corp., Trion, Ga.

H. C. Cobb, Sr., 65, retired executive of Pacific Mills, Rhodhiss, N. C.

Bernard M. Cone, 81, retired chairman of the board of Cone Mills Corp., Greensboro, N. C.

Olin L. Craig, 65, outside superintendent and cotton classer for Norris Cotton Mills, Cateechee, S. C.

John F. Dunn, III, 60, founder and president of the former John F. Dunn Worsted Co., Providence, R. I.

Harry E. Frisch, 67, founder and president of H. E. Frisch Knitting Mills Co., Cleveland, Ohio.

Blufard D. Garrett, 51, assistant overseer of the weave room at Monaghan Mill, Greenville, S. C.

Grady G. Giles, 56, superintendent of Durand Hosiery Mill, Chattanooga, Tenn.

Bernard Golding, 52, co-director of Fastex Dyeing & Finishing Co., Sterling, Conn.

Lewin K. ("Shorty") Green, shift supervisor, Asbeston plant, U. S. Rubber Co., Hogansville, Ga.

William R. Gutekunst, 49, in charge of dyeing operation for Interwoven Stocking Co., Martinsburg, W. Va.

W. M. Hagood, Jr., 67, director of Pickens (S. C.) Mills.

R. Lee Hill, 68, president of Lee Hosiery Mill, Thomasville, N. C.

J. P. Lawrence, 66, a founder and chairman of the board of American MonoRail Co., Cleveland, Ohio.

Edward McMillan, 78, superintendent and general manager of Startex (S. C.) Mills.

Grover D. Moore, 70, president of Grace Hosiery Mills and vice-president of Tower Hosiery Mills, both of Burlington, N. C.

Hugh A. Morson, 74, retired manager of the Spray (N. C.) plant of Leaksville Woolen Mills, Inc.

Fred C. Odell, 75, president of J. M. Odell Manufacturing Co., Bynum, N. C., and secretary of Kerr Bleaching & Finishing Works, Inc., Concord, N. C.

Thomas S. Roberts, 77, chairman of the board of Adelaide Mills, Anniston, Ala.

Samuel P. Stowe, 87, president Climax Spinning Co. and Stowe Spinning Co., Belmont, N. C.

R. H. Thurmond, Sr., 65, treasurer of Jordan Mills, Inc., Columbus, Ga.

A. C. Tift, 64, vice-president of Piedmont Cotton Mills, East Point, Ga.

John Turrell, 75, retired director of Cluett, Peabody & Co., Waterford, N. Y.

Arthur W. Young, 70, former resident manager of Franklin Process Co. spinning mills at Fingerville, S. C.

Fred Zier, 64, president of Fred Zier Knitting Mills, Brooklyn, N. Y.

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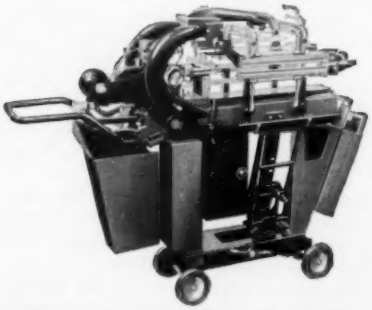
BARBER-COLMAN

SERIES "M" MODELS NOW MADE IN **10** SIZES
FROM 36" TO 126" BY 10" VARIATIONS

PORTABLE *Warp-Tying Machines* FOR ALL PURPOSES

The BARBER-COLMAN line of warp-tying machines has now been extended to cover practically every conceivable application. As noted above, the Type "M" machines are now available in *ten* sizes. These machines tie the *full width* of the warp in one operation, work directly in back of the loom, and are made in several types to tie-in cotton, spun yarns, filaments, wool, worsteds, or synthetic yarns from a flat sheet or from an end-and-end lease. When using a Type "M" Warp-Tying Machine, none of the weaving elements need be removed nor any of the loom settings disturbed. The picture at the right shows the special cart used for protecting the Knotter Unit when not in use and for carrying it from one frame to another when two or more are employed. This carrier also contains the variable speed-controller for the Knotter Unit. These machines are probably the most versatile available for most mill conditions.



IMPROVED SERIES "L" MODELS IDEAL FOR CERTAIN CONDITIONS

BARBER-COLMAN Model "L" machines are familiar to two generations or more of mill people, because they have been on the scene in one form or another for 45 years. The latest designs, one of which is shown here, have many up-to-date improvements which distinguish not only their appearance but also their operation and efficiency. These compact, versatile, and easily-moved machines have many important applications in both large and small mills. Barber-Colman representatives are thoroughly versed in the usefulness and applicability of both Model "L" and Model "M" machines, and can be consulted with confidence as to which might suit a given situation best. Also, it is important to know that all users of Barber-Colman machines are served promptly and skilfully by an alert service group of wide experience.

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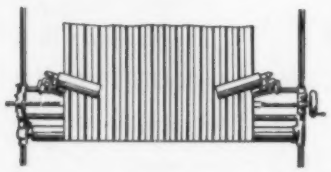
***WORLD-FAMOUS*, too . . . in textile plants everywhere is the ever-dependable**

***Famous for* INCREASING PROFITS, BOOSTING CLOTH PRODUCTION, REDUCING HANDLING COSTS, DAMAGE and LOSS.**

The MECHO Guider is so precision-engineered, it is accurate within one-eighth of an inch of a given mark and ranges from 1 to 400 ypm. Its hypersensitive selvage finger is guaranteed not to turn double edges. An ingenious control . . . without counterweights or linkages . . . infinitely adjusts selvage finger tension, while in operation, to suit the particular weight and weave of fabric. Stainless steel, acid- and moisture-resistant units with sealed bearings are also available.



MECHO Guiders have been standard equipment in hundreds of finishing plants for more than 20 years, handling woven and non-woven fabrics, semi-rigid plastics, artificial leather and rubber, felt and gauze. *What greater testimony to product performance can one ask?* Isn't that the kind of product you want in your plant?

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What the TEXTILE MILLS *are doing*

Avondale Mills held their 34th annual spring open house during the period from May 7 to May 14. The activities permitted the public to inspect every facet of community life, as well as plant operations, from kindergartens to packaged fabrics. Assisting in the tour were numerous off-duty employees and some retired personnel. Most of the female operatives wore dresses made of Avondale fabrics. Rated by Avondale's president, J. Craig Smith, as the most gratifying of all inspections, the tours began at Pell City and Birmingham plants on Monday, moved to Sylacauga (three plants) and Sycamore (one plant) on Tuesday, to LaFayette and Alexander City on Wednesday, and ended with a visit to the Stevenson plant on the following Monday.

The Decatur, Ala., plant of Chester H. Roth Co., **Alabama Hosiery Mills, Inc.,** has been closed—an economic move, according to an announcement by J. B. Hewitt, plant manager. All machinery and equipment will be sold.

24 deliveries of new type drawing are scheduled for delivery this summer to the Clover, S. C., plant of **American Thread Co.**

Bartow Mills, Inc., Cartersville, Ga., has been incorporated and yarns will be spun from natural and synthetic fibers. A one-story concrete block and brick veneer structure of modern design will be erected on a newly acquired tract of land. In the beginning, the plant will employ 50 to 60 persons.

Authority to acquire the facilities of National Chenille Products Co., Dalton, Ga., and Tullahoma, Tenn., has been given directors by stockholders of **Bates Manufacturing Co.,** Lewiston, Maine. Authority to acquire Canadian manufacturing facilities also was granted, should the directors believe such steps desirable. According to a statement by Frank C. Mawby, president, chenille products, which Bates is not equipped to produce, and the addition of a Canadian division would not compete with the company plants in Maine.

In celebration of its 50th anniversary, **Berkshire Knitting Mills,** Reading, Pa., held "open house" in June, at which a special exhibit was set up, illustrating the physical growth, product development, and sales and promotional advances through the years. Commemorative booklets were distributed to visitors. Employees and their families were invited to tour the mill prior to the open house date.

Recently organized to do commission wool dyeing and finishing was **Botany Finishing Co.** with offices at 1430 Broadway, New York, N. Y., and plant at 184 Dayton Ave., Passaic, N. J. Officers of the new company are: president and chairman of the board, Joseph Carlino; vice-president and treasurer, John M. Lindsay of Forstmann Woolen Co.; vice-president and secretary, Rudy W. Vogt, formerly of Cliffside Dyeing Corp.; and vice-president and general manager, Richard G. Stoehr, formerly president of Clarence Worsted Co.

Burlington Industries expects to complete in September an addition to the Scottsboro (Ala.) Hosiery Mill.

Carlton Yarn Mills, Cherryville, N. C., has announced the operation of a 5,000-spindle novelty yarn unit, located at King's Mountain, N. C., in connection with the Carlon division. William B. Thomas, formerly manager of the Mooresville (N. C.) Mills, and vice-president and general manager of the Broadnax (Va.) Mills, heads the novelty division.

The Chatham Mfg. Co., Elkin, N. C., has instituted a college training plan designed to provide jobs for graduates of high schools in the area. All seniors are invited to take aptitude tests. If interest in jobs with the company is indicated, the students are advised as to what college courses to take and are given summer employment while attending college. Training courses in all phases of the company's operations are conducted for them during the summer, and upon graduation students are given preference for employment.

A new interlining, said to be safe to use with chlorine and intended primarily for men's wash-and-wear shirt manufacturers, has been de-

Gastonia, N. C. . . . where Dow caustic works for textile manufacturers.

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Dow is the one producer, you know, supplying caustic soda to industry everywhere. Wherever you produce, you're *sure* of getting rapid, dependable service from Dow.

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What the TEXTILE MILLS are doing

veloped by **Chicopee Manufacturing Corp.**, Chicopee Falls, Mass., and is being offered to the trade under the Shapewell trademark.

Employees of **Clinton (S. C.)-Lydia Mills** participated recently in a home yard improvement and beautification contest. Awarded were two first prizes of $15 each, two second prizes of $10 each, and two third prizes of $5 each. Attractive plaques were placed in the yards of the first prize winners.

Coats & Clark, Inc., have made available to the Georgia Institute of Technology two scholarships in the amount of $500 a year for a four-year period each, to be used for students in the textile, chemical or mechanical engineering fields. Two similar four-year scholarships will be established each year hereafter. Under conditions of the grants, sons or daughters of employees of Coats & Clark, Inc., will be given preference over other applicants for these scholarships.

Directors of **Dan River Mills** have approved plans to acquire Iselin-Jefferson Co., Inc., of New York, selling agent for more than 50 yarn and cloth mills. Dan River management states that acquiring Iselin-Jefferson will provide diversification, broaden volume, and aid in financing a large-scale advertising program.

Because Winston-Salem, N. C., is most accessible to many of its customers and because one of the largest of its four throwing plants is located there, **The Duplan Corp.** has consolidated its sales and manufacturing headquarters staffs there. The company's building in Charlotte, N. C., is to be sold. To provide greater unity, which will improve customer service and reduce operating costs, the New York City accounting department was also moved to Winston-Salem.

Falls Yarn Mills, Woonsocket, R. I., have leased the property formerly occupied by Model Dye Works, Inc.

The Duskin Manufacturing Co., San Francisco, Calif., now occupies the entire three-story building in which the business has been located for the past several years. Four custom-built machines are to be installed in the third floor knitting department which will bring the number to 24, plus six accessory units. The additions in machinery and total floor space (now about 16,000 sq ft) are expected to increase production capacity by 40 per cent and give the firm a more diversified line.

Employees of plant No. 6 of **Erwin Mills**, Durham, N. C., were recently presented a silver safety plaque award for having completed the year of 1955 without a lost time accident. * * * 78 new 3½" gauge spinning frames with 300 spindles each and nine new 88-spindle roving frames have been ordered for the company's No. 4 mill.

Fantashere, Inc., Buffalo, N. Y., hosiery manufacturer, has entered the seamless hosiery field. Expecting to reach full production in about six months, the company has installed 30 machines, and about 5,000 sq ft of floor space have been added to the main plant for additional stock storage and finishing operations, all at an approximate cost of $100,000. Roderick L. Griffis has been promoted to production control manager.

Announcement has been made that the cotton spinning unit of the **Goodyear Decatur Mills**, Decatur, Ala., will be liquidated and the machinery sold. Operation of the nylon twisting unit is to continue.

G. & S. Hosiery Corporation is the new name for the former G. & S. Finishing Corp. of High Point, N. C.

Infants Socks, Inc., Reading, Pa., is in process of ceasing operations in Reading and is consolidating production facilities in Fond Du Lac, Wis., and Eufaula, Ala. Transfer of operations and equipment is expected to extend over a period of six months.

The May, 1956, issue of "The Joanna Way," monthly organ of the **Joanna (S. C.) Cotton Mills Co.**, included a special 16-page section featuring the Joanna Foundation, a cooperative enterprise which seeks to fulfill the recreational, educational, and health needs of Joanna Cotton Mills employees, as well as others in the community.

At Fall River, Mass., the **Luther Manufacturing Co.** has ended operations.

The 500 employees of the Dana Warp Mills division of **Massachusetts**

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As Production Engineers we specialize in the utilization of

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Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"Their representatives employed in installing this system were of high caliber, and we are greatly pleased with the result of their work."
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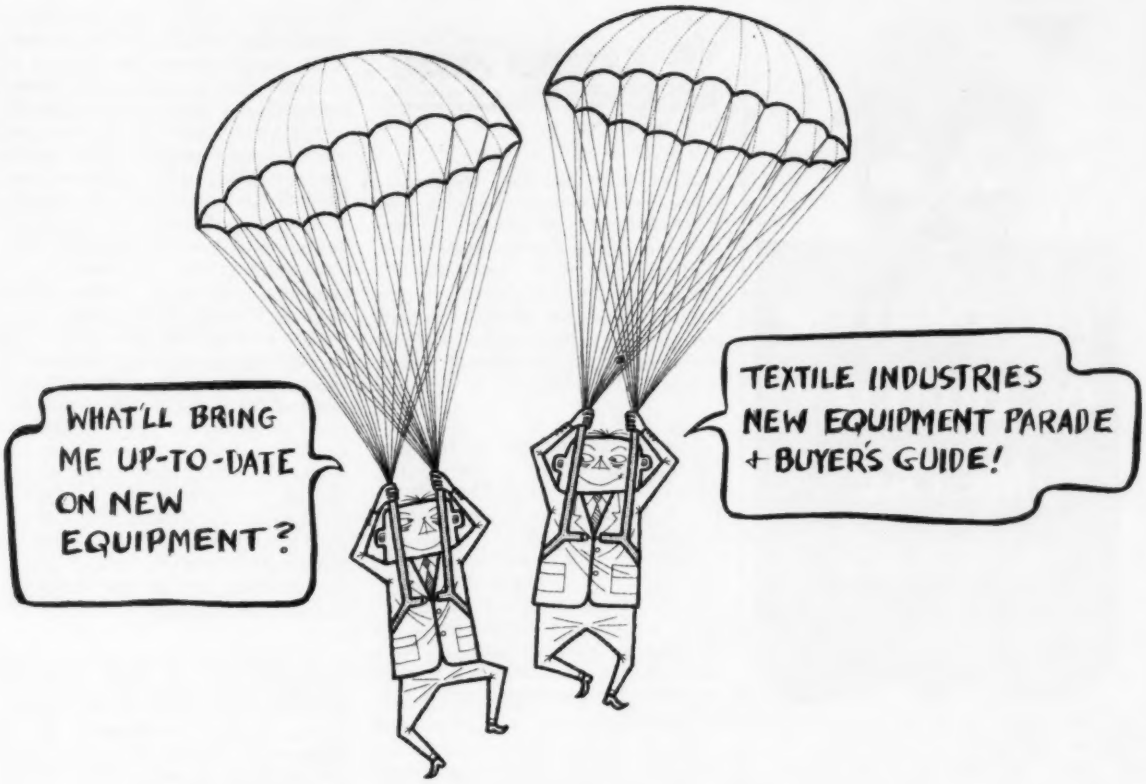

YOU HEAR PEOPLE TALKING ABOUT IT EVERYWHERE . . .

T.I.'S NEW EQUIPMENT PARADE & BUYERS GUIDE!

This additional issue in Mid-November will combine a review of the full year of new equipment, machinery, supplies and services with the most complete and practical BUYERS' GUIDE offered the textile trade. It will be invaluable to you in keeping your finger on new developments.

For easy reference and use the issue will be divided into sections with ten headings:

1—Opening, Picking, Carding, Combing, Drawing, Roving

2—Spinning, Twisting, Winding, Spooling, Warping, Throwing

3—Slashing, Weaving, Cloth-Room Tufting

4—Knitting—Full-Fashioned, Circular, Tricot, Body Boarding, Finishing

5—Dyeing, Bleaching & Finishing

6—Yarns & Fibers—Natural & Synthetic

7—Laboratory, Testing, Research

8—Management—Process Engineering, Consultants, Factoring, Appraisers, Brokers, Used Equipment

9—General Plant Operating, Construction & Maintenance

10—Materials Handling, Common Carriers, Packaging, Identification

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Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

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TEXTILE SHIELD CO., INC.

J. N. ANDERSON, Treasurer

LAWRENCE, MASS., U. S. A.

What the TEXTILE MILLS are doing

Mohair Plush Co., Inc., Westbrook, Maine, were recently notified that they would receive monthly 25 per cent of company profits before taxes. The plan was to be retroactive to April 1 and the first payment under the new terms made May 25. The plan provides that each employee share in proportion to his pay without regard to length of service.

A registration number at the U. S. Patent Office has been issued to the **Textileather Division of The General Tire & Rubber Co.,** Toledo 3, Ohio, for the name "Nygen Tolex" for coated fabrics for upholstery material in the nature of simulated or artificial leather. The product is a vinyl material supported by Nygen web. Its outstanding characteristic is balanced stretch, which makes it readily adaptable for automotive and furniture upholstery.

Quality is being improved in the card room at **Woodside Mills,** Greenville, S. C., with the addition of 50 new cards. By slowing down both existing and new cards, output remains the same, but quality is better. To keep the spinning department on a highly competitive basis, a new type creel has been placed on all warp and filling spinning, and an extended draft system added to both filling and warp frames. Boiler room improvements and other equipment are also part of the modernization program. * * * At the Haynsworth plant in Anderson, S. C., construction of a new warehouse adjacent to the storage, slasher, and supply-room section is nearing completion. It is designed for raw material storage.

Nolde and Horst Co., a division of Chester H. Roth Co., is now operating a new women's seamless hosiery plant in Pittsboro, N. C. Knitting and looping operations are being accomplished at Pittsboro and finishing of the hosiery is done in the Burlington, N. C., plants of the company.

Buildings, land, and machinery of the Kingstree, S. C., mill of **Princeton Worsted Mills** have been acquired by **Deering, Milliken & Co., Inc.**

Present operations at the woolen and worsted division of **J. P. Stevens & Co., Inc.,** Milledgeville, Ga., are to be augmented by dyeing and finishing facilities. Construction of approximately 70,000 sq ft of manufacturing space adjacent to the present building is expected to be completed during 1957, and number of employees is expected to be increased by 250. * * * Formal open house ceremonies were observed May 4 for inspection of the synthetics division's new Carter Plant in Wallace, N. C. During registration, visitors were presented with an attractive booklet containing a letter of welcome from the management of the plant plus a section devoted to the history and highlights of the Carter Plant and the parent organization. The center section of the booklet showed through the medium of cartoons the various steps in the plant's manufacturing processes from receiving and winding through weaving, knitting, dyeing and finishing, packing and shipping.

An expansion program involving an expenditure of nearly $2,000,000 has been announced by the **Textileather Division of General Tire & Rubber Co.,** Toledo, Ohio. The main portion of the expenditure will be for a 92" automatic calender line for the production of vinyl fabrics. A special building to house the new line is included in the expansion program. The balance of the expenditure will be used for other machinery in the Toledo plant.

The corporate name of **Textron American, Inc.,** Providence, R. I., is to be changed to **Textron, Inc.**

Troutman (N. C.) Spinning Co., a wholly owned subsidiary of Pine State Yarn Mills, has applied for a state charter for spinning cotton, wool, rayon and other fibrous materials. Limited production of knitting yarns has begun in a new 5,000 sq ft building on property adjacent to Pine State Yarn Mills, and a 3,200 sq ft warehouse has been erected.

Modernization of its entire spinning operation is planned by **Trenton Cotton Mills,** Gastonia, N. C. 49 new 3¾" gauge spinning frames, containing about 13,000 anti-friction type spindles are to be installed, replacing 52 old machines.

A modernization program which will increase production capacity by about one-third has been initiated at **West Boylston Mfg. Co. of Ala.,** Montgomery, Ala.

SUPPLIERS News

WHAT THEY ARE DOING

Patentex, Inc., has a new patent for a process to produce a stretchable fabric to use in women's sheer stretch hosiery. Steps covered by the patent are: twisting of nylon yarns in opposite directions; winding the twisted yarns on bobbins in a particular direction and knitting the stretchable twisted yarns to form a stretchable hosiery fabric. Claims are included for a number of variations on the basic steps for producing a stretchable fabric, such as presetting the yarns prior to twisting.

The warp room building at the Pinkney plant of **Textiles, Inc.,** Gastonia, N. C., has been completely remodeled.

Yarn spinning facilities of the **J. M. Odell Manufacturing Co.** plant in Bynum, N. C., are being modernized. Three 10" x 5" roving frames and sixteen new spinning frames are to be added.

The Clifton, N. J., synthetic fabric finishing plant of Schwarzenbach Huber Co., the **Patrician Piece Dye Works, Inc.,** has been closed. The company is contracting with other finishers for services formerly carried out at Clifton, according to the announcement.

News from **Fieldcrest Mills, Inc.:** The Electric Blanket Mill has received from the National Safety Council an award of merit for outstanding performance of operatives for the six-year period January 1, 1950 through December 31, 1955. During this time, the employees worked a total of 1,352,317 manhours without a disabling injury. Also, the Bedspread Mill received a certificate of commendation from the Council for its safety performance in 1955—employees of this plant set a record by working the entire year without a disabling injury and accumulated 728,524 accident-free manhours. * * * Smoking booths have been installed in the carding, spinning, winding, and weaving departments at the Bedspread Mill and in the Karastan weave room. * * * Employees, members of their families, relatives, friends, and the general public recently attended "open house" programs at all of the Fieldcrest mills. Guided tours were arranged to enable the visitors to see the new machinery, building additions and alterations, and other improvements embraced by the modernization program which has been under way at Fieldcrest for the past two-and-one-half years.

Akron Spool and Manufacturing Co., for the past eight years located in Cuyahoga Falls, Ohio, expects to occupy a new 8,000 sq ft plant in High Point, N. C., by July 1. According to John B. Hawley, president, the move will enable the company to better serve its customers.

Robert A. Gopel, formerly manager of sales personnel development, Koppers Company, Inc., has been appointed assistant sales manager, **American Aniline Products, Inc.,** with headquarters in the New York office.

American Cyanamid Co. expects to complete in the fall of 1957 in Willow Island, W. Va., a new plant to produce aniline by a catalytic process.

M. C. Sarran, manager of Atlantic Steel Company's warehouse division, has been elected vice-president of the **American Steel Warehouse Association.**

"Colorspun" rayon staple for carpets will soon be produced by **American Viscose Corp.** Colorspun is the Avisco trademark for solution-dyed fibers. * * * Plans to double the research and development quarters at Marcus Hook, Pa., have been announced. Provision of 220,000 sq ft of laboratory space will also include room for future expansion.

William A. Coleman and Harry Lynn Parker, Jr., have joined the sales staff of **Blackman-Uhler Manufacturing Co.** division of The Andover Company, and A. F. Neister, Jr., has entered the laboratory as a technician. * * * To provide for increased manufacturing and warehouse facilities in the South, Blackman-Uhler has acquired additional land. **Alliance Color & Chemical Co.,** another division, is erecting a new

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Southern Textile Exhibition

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

SUPPLIERS News
WHAT THEY ARE DOING

boiler house and machine shop.

Five district managers and assistant district managers have been appointed for **Carbide and Carbon Chemicals Company,** a division of Union Carbide and Carbon Corp., as follows: R. A. Corio, district manager and M. R. Kleeman, assistant district manager for the Newark district; B. A. Gustin, Jr., district manager for the Boston district; R. J. Hughes district manager for the Philadelphia district; J. F. Luther district manager for the Charlotte, N. C., district, and J. R. Retter, district manager for the Albany district.

At **The Chemstrand Corporation,** Edward A. O'Neal, Jr., formerly vice-president and director of Monsanto Chemical Co., has been named president to fill the vacancy created by the resignation of Henry H. Bitler who has returned to American Viscose Corp. * * * J. B. Lawrence has been assigned to the Charlotte, N. C., office, from which he will serve the southern territory on sales of Acrilan acrylic fiber and Chemstrand nylon. * * * Richard F. Eshleman is now located in the technical sales service department at Decatur, Alabama. He was formerly president of Dorchester Fabrics, Inc., of Summerville, S. C., and manager and director of Chestertown Mills, Inc., Chestertown, Md.

John G. Frischkorn has been appointed district sales manager by the Cleveland tramrail division of **The Cleveland Crane & Engineering Co.** His territory includes parts of West Virginia, Pennsylvania, New York, and eastern Canada.

George A. Grossman has joined **Clevite Harris Products Co.** as manager of the company's newly created special products division, formed around specific products already developed for the textile, household appliance, chemical and other industries. Mr. Grossman was formerly sales manager of The Barth Corporation.

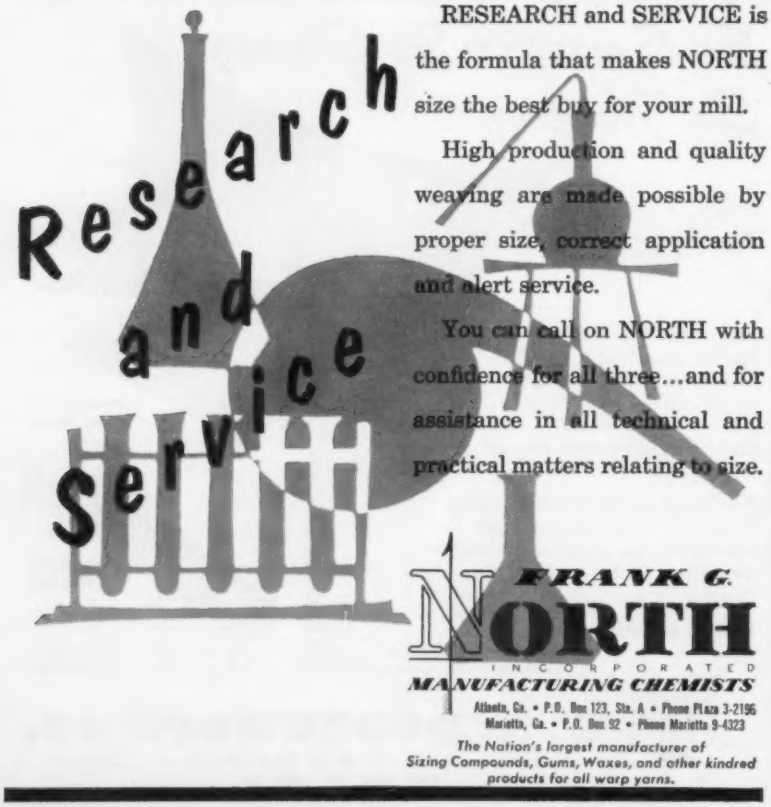
A change in name and ownership of Clinton Foods, Incorporated, has been announced. With the company's recent purchase by Standard Brands, Inc., the name became the **Clinton Corn Processing Company,** a division of Standard Brands, Inc.

Samuel F. Rockwell, president and treasurer of **Davis & Furber Machine Co.,** was paid signal honor by Lowell Technological Institute during Textile Education and Machinery Day ceremonies on May 10 for his "outstanding contribution to textile education." Mr. Rockwell, treasurer of American Textile Machinery Association since it was founded in 1933, was described as "dean" of the American textile machinery builders, as he has been active in the industry since he first joined Davis & Furber 58 years ago. In presenting Mr. Rockwell with a silver desk box carrying the Lowell Tech seal, Martin Lydon, president of Lowell Tech, said "This is a small token of the high esteem which we at Lowell hold for a great industry leader. His company is unique in that it has sponsored special summer courses here, stimulating interest in woolen manufacture and opening the way to more responsible industry positions to many who have participated."

Edgar C. Britton, director of the Edgar C. Britton Research Laboratory of the **Dow Chemical Company** and past president of the American Chemical Society, will receive the 1956 Perkin Medal of the American Section of the Society of Chemical Industry at a meeting of the section in September.

A plan to provide financial assistance to American colleges and universities, recently announced by the **Draper Corporation,** calls for the joint participation by the corporation and individual employees who either hold a degree from a college or university, who have been in attendance there as a full-time day or evening student for at least one academic year, or whose children fulfill either of the above requirements. To be eligible for the program, an employee must have completed at least a year of continuous, active service with the corporation.

The position—assistant general director of technical sales in its textile fibers department—newly created by **Du Pont,** is held by Dr. Winfield W. Heckert, formerly general director of textile fibers research divisions Ford B. Draper, general director of



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sales, said that bringing a top research man directly into Du Pont's sales activities indicates the strength the firm is putting behind intensive efforts to bring research closer to the textile trade.

Baker-Raulang Co. has promoted E. E. McVeigh to the position of sales engineering manager.

At **Fairbanks, Morse & Company,** Robert H. Morse, III, formerly sales manager is now vice-president-sales; D. L. Harwood, formerly general purchasing agent has been named vice-president-purchases; and J. F. Weiffenbach, formerly chief product engineer, is now director of engineering.

Fisher Manufacturing Co. announces completion of construction of their new plant, replacing the original structures which were destroyed by fire when lightning struck in 1954. The entire operation is now

under one roof, according to J. Glenn Fisher, president, and has twice the working area of the former plant, which had three buildings. This enables a more efficient operation, and much larger production than before, Mr. Fisher said.

John H. DeWitt, formerly treasurer of the former Brinton Machine Company, has been elected treasurer and comptroller of the **Fletcher Works** and Fletcher Foundry. Mr. DeWitt will also supervise office management. * * * Robert Scholes, formerly vice-president in charge of engineering and production for Fidelity Machine Co., has been named vice-president in charge of production. He will direct a program designed to completely streamline production divisions.

Dr. Max E. Bretschger has retired as division president of the **Becco Chemical Division** of Food Machinery and Chemical Corporation, to become senior technical advisor to the corporation on peroxygen chemicals. He is succeeded as president of Becco by Frederick A. Gilbert. * * * Dewey H. Nelson, formerly mid-west district manager for Becco, has been promoted to assistant to the sales manager with headquarters in Buffalo. James F. Whalen, Jr., a Charlotte, N. C., sales representative, succeeds Mr. Nelson. Edward A. Dalmas has joined the Charlotte sales staff, replacing Mr. Whalen.

A new slidefilm instruction course designed to aid in the training of industrial personnel in the selection and application of modern electric and electronic control equipment has been made available by the **General Electric Company.** Composed of eight 35-mm color slide films and recordings which treat virtually every common aspect of control, together with instructor's manual and review booklets, the program has been distributed to G-E district apparatus sales offices for showings to interested groups.

The General Ultrasonics Company has moved to a new and enlarged plant at 67 Mulberry St., Hartford 3, Conn.

Gifford-Wood Co. has announced appointment of Walter G. Engler and Alfred H. Hallenbeck as vice-presidents of the company. Both veterans with the firm, Mr. Hallenbeck joined in 1921 and Mr. Engler in 1929.

Newly appointed manager of the textile sales department of **E. F. Houghton & Co.** is Bernard Menin, formerly assistant manager. He succeeds C. B. Kinney who retired after more than 25 years with the company.

Industrial Rayon Corporation recently held open house at new and enlarged quarters in Cleveland, Ohio, marking the 20th anniversary of the establishment of facilities for the manufacture of its own rayon processing machinery.

Instrument Development Laboratories, has named Donald R. Hall as sales engineer. Formerly with the Brown division of Minneapolis-Honeywell Regulator Co., Mr. Hall will act as sales engineer of I.D.L. color measurement and control equipment to the chemical, paint, plastic, paper, lithography, ink and textile industries.

The Lincoln Engineering Company has merged with **The McNeil Machine & Engineering Company.** McNeil is the surviving corporation and the new name of Lincoln is Lincoln

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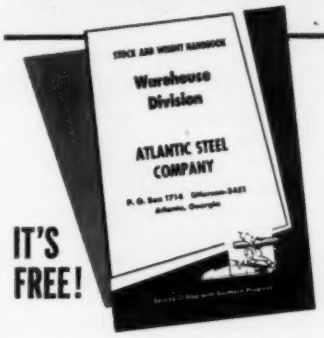

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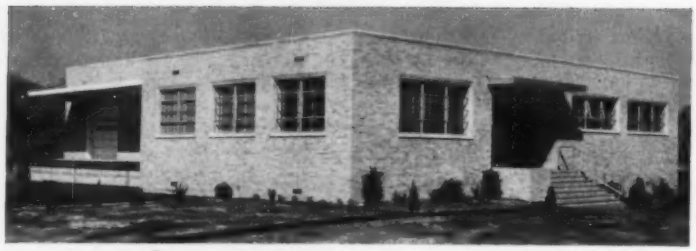
SUPPLIERS News
WHAT THEY ARE DOING

Engineering Co., division of the McNeil Machine & Engineering Co. Jonathan Kludt, former vice-president in charge of production of Lincoln Engineering Co., was elected to serve as general manager of the Lincoln Division.

William L. Parcell, former sales manager of **The Ridge Tool Co.** has been named vice-president. Mr. Parcell will celebrate his 20th anniversary with the company in June, and continues as director of sales.

The Fletcher Works held a trade and press open house at its remodeled quarters at 2nd and Glenwood Avenues in Philadelphia on May 22. Among the new equipment exhibited in the new showroom was the Fletcher high speed automatic loom.

William C. Dodson, sales and development engineer for **Smith-Drum & Company,** has retired. In a consulting capacity, he will be "on call" by the firm.



Geigy's new Chattanooga office and warehouse

Geigy Dyestuffs, division of Geigy Chemical Corp., has opened a new Chattanooga, Tenn., office, laboratories, and warehouse, under the direction of E. V. Helms, a Chattanoogan. In late summer or early fall the corporation's entire administrative and laboratory activities will be relocated in Ardsley, New York, according to plans.

Formation of a single textile division by merger of the company's former cotton and rayon divisions has been announced by **McLean Trucking Co.** Mannie Whitman is manager and Lou Sklover and Arthur J. Weisberg are associate managers.

Owen C. Davis has been elected treasurer of **Vickers, Incorporated.** He was formerly controller for the corporation. * * * Appointment of Thomas B. Doe, Jr., as manager of export sales, has been announced by the firm. * * * The engineering department has recently been reorganized under the direction of Dr. N. E. Edlefsen, and completion of the program was timed to coincide with the opening of the new administrative and engineering center in suburban Detroit.

Former executive vice-president David W. Stapleton has been named president at **Stowe Woodward, Inc.,** succeeding E. W. Peterson who became chairman of the board of directors.

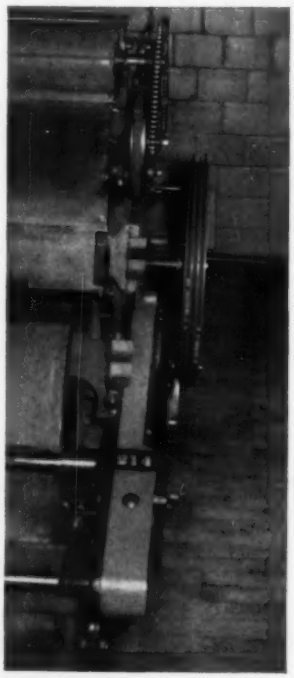
Terrell Machine Company has been given a national award for "economic understanding" among employees.

An expansion program to double electrolytic production of chlorine and caustic soda at the McIntosh, Alabama, plant of **Olin Mathieson Chemical Corp.,** has been announced. Completion of construction, already under way, is scheduled for January, 1957.

Promotions in executive personnel at **J. O. Ross Engineering Corp.** include: C. J. Schmidt from vice-president, sales, to executive vice-president; W. K. Metcalfe from secretary to director and vice-president, sales; J. M. Petix from member of the sales engineering staff to secretary of the corporation.

The Torrington Company announces the appointment of Walter L. Moore, Jr., as a sales representative for the needle division's branch office in New York City. He succeeds W. W. Blelock, Jr., who resigned.

Find the motor driving this card?



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Mr. Oehmig
Meinhard

Mr. Moffitt
Mt. Hope

Mr. Haley
Emkay

Mr. Pennock
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Warner & Swasey Co. has transferred Raymond O. Perrault, field engineer, from Cleveland, O., territory to an area comprising the states of Del., N. J., Va., W. Va., and part of New York and Pa. Chester J. Haug, formerly of New York moves to the Atlanta, Ga., sales office as field engineer for Ala., Fla., Ga., Ky. and Tenn. * * * Thomas L. Stilwell has been made sales manager of the textile machinery division, succeeding Eugene R. Gardner who retired after 44 years of service. * * * Herman K. Jennings has been named district manager in Charlotte, N. C.

National Starch Products, Inc. has elected Donald D. Pascal as executive vice-president, succeeding the late A. A. Halden, and William C. Buffing as treasurer. * * * A new method of separation whereby residual protein content is substantially reduced has been employed by the company to provide starch of very high purity.

In line with its expansion of west coast activities, the **Nopco Chemical Co.** has added D. E. Murphy to its technical sales staff. Mr. Murphy has been assigned to the southern California sales district, and will make his headquarters in Los Angeles.

Planned for completion by the end of 1956 is a new manufacturing plant, office building, and laboratory at Charlotte, N. C., for **Stein, Hall, & Co.** Among other items, the new plant will manufacture resins for a number of industrial applications and a variety of formulations for warp sizing, printing, finishing, and other steps in textile processing.

William B. Amos has joined **Wica Chemicals, Inc.,** as sales technician, to serve the areas of Georgia, Alabama, and Tennessee. He was formerly associated with Stein, Hall & Co.

Daniel B. Libby, formerly with the sales department of Limerick Yarn Mills, has joined the old-line factoring firm of **Meinhard & Co., Inc.,** where he will handle mill accounts out of the New York office. * * * Von D. Oehmig, formerly with Crompton-Richmond Co., has been named a southern representative with headquarters in Columbus, Ga.

The appointment of Samuel A. Moffitt as textile consultant has been announced by **Mount Hope Machinery Co.** Mr. Moffitt, who recently completed the planning and laying out of a printing, dyeing and finishing plant, has been associated, in a consulting capacity, with a number of printing and finishing firms.

H. Russell Haley, former N. Y. and Pa. representative for Onyx Chemical and Oil Co., has joined the sales staff at **Emkay Chemical Co.**

Robert S. Pennock, formerly a partner of L. M. Demarest & Associates, has joined **Universal Winding Co.** as vice-president in charge of domestic sales. He replaces Winthop S. Warren, who retired.

Construction of a new office building for **Fischer & Porter** is under

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way. The two-story air conditioned structure will have more than 91,000 sq ft of space, and a new cafeteria will be situated on a split level between the new building and present manufacturing plant. The employees' Athletic and Recreation Association is also constructing a new clubhouse on the company's 13-acre tract in Hatboro, Pa. * * * Three promotions in the sales department are as follows: Philip E. Sellers, formerly sales manager is now sales vice-president; Herman Kockritz, formerly southeastern divisional manager, is now field sales manager; and William Trethaway, formerly sales engineer, has become district manager of the Atlanta office.

A new service is offered to the textile industry by the Titania Division of **American Lava Corp.**—assistance in the selection and proper utilization of Lamicoid products. These are laminated items such as bobbins, spools, lap rolls, redraw caps, etc., manufactured by **Mica Insulator Co.** of Schenectady, N. Y. Lamicoid is made from specially selected papers and cloths of all types, impregnated with synthetic resins and molded under heat and pressure into machineable tubes, rods, and sheets. Sales and service of these laminated plastics are handled by American Lava in all areas of the United States except the far West. In the states of New Mexico, Arizona, Utah, Idaho, Washington, Oregon, Nevada, and California, **Western Fibrous Glass Co.** is distributor.

More than 150 persons, representing southern textile, paper, and other industries, attended a technical seminar on synthetic latex polymers conducted by the chemical division of **Goodyear Tire and Rubber Co.** on May 4 in Atlanta, Ga. The event was held in the Hightower Textile Building at the Georgia Institute of Technology. Main topics covered in the day-long meeting included development, production, evaluation, properties, and uses of synthetic latices. Non-woven fabric, sized denim, latex-backed carpet and upholstery, latex-sized fabrics, and pigment-printed materials illustrated typical textile applications.

Monsanto Chemical Company has completed installation of new production facilities at Everett, Mass., which have more than doubled its capacity to produce cyclic urea resins for textile finishing.

Announcement has been made of the appointment of Samuel J. Childs as vice-president and general manager of **Weston Electrical Instrument Corp.**, and appointment of John D. MacNamara as field sales manager.

A new million-dollar plant for manufacturing its Polyken pressure-sensitive industrial tape and plastic protective tape coatings for prevention of corrosion on metal pipes will be erected by **The Kendall Co.** on a 76-acre site in Franklin, Ky.

Robert Connor, formerly with **Rodney Hunt Machine Co.** sales department, has resigned to move to

Mr. Connor

Havana, Cuba, as technical consultant for Cuban dyeing and finishing plants.

Another patent covering a stocking package has just been issued to J. C. Berry of Durham, N. C., assignor to **Berry Brothers Corp.** The patent, No. 2,742,149, is a continuation of and embodies the same basic two-on-one principle set forth in U. S. patent No. 2,696,295 previously granted to Mr. Berry. The newly issued patent is directed primarily to a stocking package in which two socks are placed on a single heelless or substantially heelless cardboard insert. The licensees of Berry Brothers Corp. under the original patent are protected by and automatically licensed under the newly issued patent.

Dr. Ralph F. Nickerson has been chosen as a group leader of **Shawinigan Resins Corp.** to direct the activities of the company's textile and paper coatings program. He came to Shawinigan from Monsanto Chemical Co.

Raymond Laboratories, Inc. has entered the commercial chemical field and is now making available from stock sodium lauryl sulfate

SUPPLIERS News — WHAT THEY ARE DOING

which is used industrially as an emulsifier and scouring agent, wetting agent, and detergent. Also being marketed by the company is a quaternary ammonium compound for treatment of woolen goods.

W. Harry King, general manager of **IPA Southern, Inc.**, has been elected president of the company. Mr. King will continue to operate out of 610 S. C. National Bank Building, Greenville, S. C.

At the fiber glass division, **Pittsburgh Plate Glass Company** has appointed P. Dudley Kaley manager of sales. He was formerly manager of glass fiber textile sales.

U B S Chemical Corporation has become the new corporate name of the Union Bay State Chemical Co., Inc. * * * Charles V. Glynn has been named assistant treasurer and controller of the firm. * * * Construction of a new plant at Mauldin, S. C., is under way.

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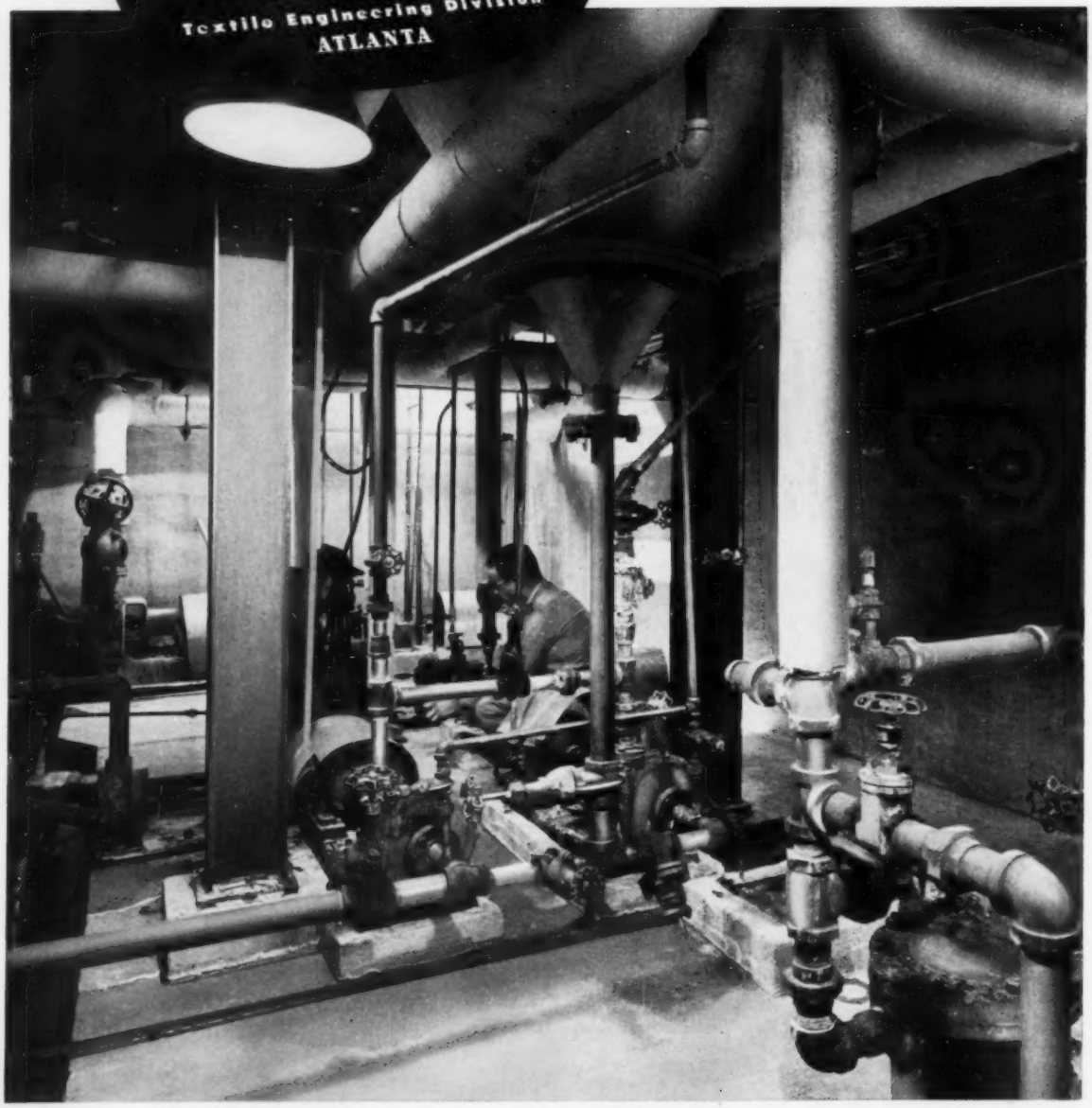

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